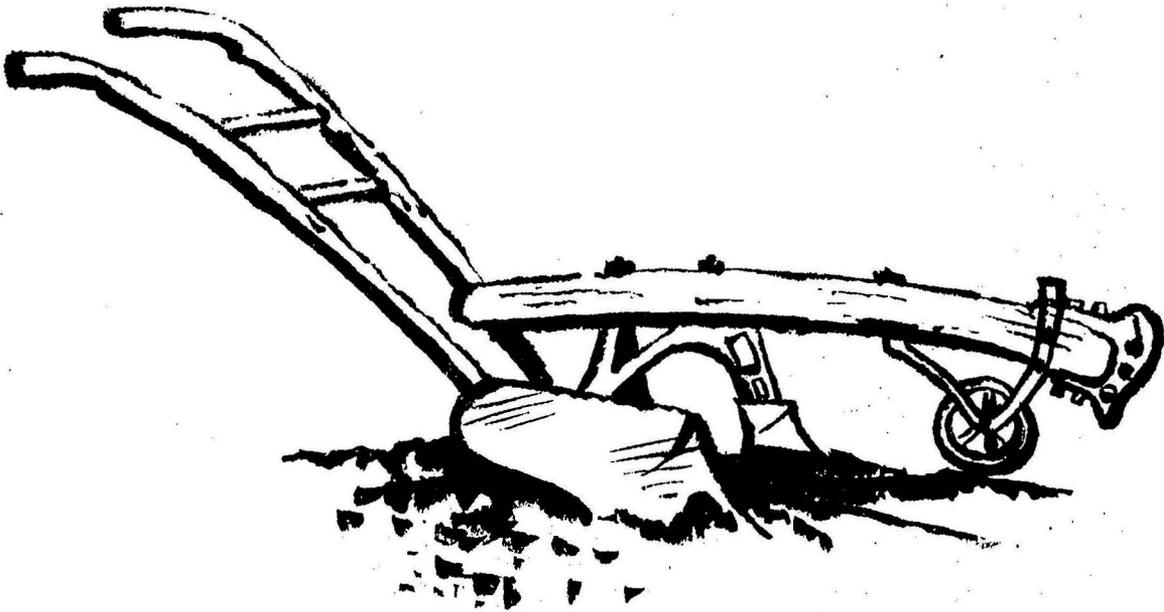


**The**

**FARMER'S  
FRONTIER**



**THE NATIONAL SURVEY OF  
HISTORIC SITES AND BUILDINGS**

The National Survey of Historic Sites and Buildings

Theme XV

Westward Expansion and the Extension of the  
National Boundaries to the Pacific  
1830-1898

THE FARMER'S FRONTIER

1959

United States Department of the Interior  
Fred A. Seaton, Secretary

National Park Service  
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## PREFACE

This study is one of a series being conducted by the National Park Service as a part of the National Survey of Historic Sites and Buildings. Because sites associated with western history have generally received less attention than those in the East, the theme "Westward Expansion and the Extension of the National Boundaries to the Pacific, 1830-1898," has been divided into a number of subthemes, one of which is the present study.

The National Survey of Historic Sites and Buildings is a resumption of the Historic Sites Survey, which was begun in 1937 under the authority of the Historic Sites Act of 1935. During World War II it was necessary to suspend these studies. The Survey has now been resumed as part of the National Park Service MISSION 66 program.

When the Survey is completed, recommendations will be made to the Director of the National Park Service and to the Secretary of the Interior concerning sites which possess exceptional value in commemorating and illustrating the history of the United States. These evaluations will assist the National Park Service in preparing the National Recreation Plan, which will include sites that might be administered by the National Park Service in order to round out the historical and archeological interpretive program within the National Park System. The Survey will recommend and encourage programs of historical and archeological preservation within the National Park System and will recommend and encourage similar programs being carried out by state and local agencies.

This report was prepared by National Park Service historians assigned to the project: Ray H. Mattison, Region Two Office, Omaha; Robert M. Utley, Region Three Office, Santa Fe; and William C. Everhart, Region Four Office, San Francisco. Mr. Everhart coordinated and edited the report.

The historical narrative, which comprises the first section of the report, was written for the National Park Service by Dr. Lawrence Kinnaird, Professor of History, University of California, Berkeley.

After completion, the study was presented to the Consulting Committee for the National Survey of Historic Sites and Buildings. The Committee consists of Dr. Waldo Leland, American Historical Association; Dr. S. K. Stevens, American Association for State and Local History; Dr. Louis Wright, Folger Library; Mr. Earl H. Reed, American Institute of Architects; Dr. Richard Howland, National Trust for Historical Preservation; Mr. Eric Gugler, American Scenic and Historical Preservation Society; Dr. J. O. Brew, Committee for the Recovery of Archeological Remains; and Mr. Frederick Johnson, Robert S. Peabody Foundation for American Archeology.

The overall Survey, as well as the theme study which follows, is under the general direction of John O. Littleton, Chief, National Survey of Historic Sites and Buildings, who works under the general supervision of Herbert E. Kahler, Chief Historian, Branch of History, and of Ronald F. Lee, Chief, Division of Interpretation, of the National Park Service.

As will be more fully discussed in the section "A Brief Survey of the Present Condition and Distribution of Sites Associated with the Farmer's Frontier," this particular phase of Westward Expansion has produced fewer

sites than almost any other. One reason for this situation, perhaps, is that writers on the Western theme have never shown much enthusiasm for the farmer. Preservation societies have more generally interested themselves in maintaining the homes of outstanding public figures, rather than preserving the humble adobe of the unsung sod buster. The criteria used by the National Park Service in evaluating historical sites is included in the appendix.

The work of the National Survey profits from the experience and knowledge of a considerable number of persons and organizations. Every effort is made to solicit the considered opinion of as many qualified people as possible in reaching final selection of the most significant sites. Assistance in the preparation of this study, and the evaluation of the historic sites, is acknowledged from the following:

Russell W. Fridley, Director, Minnesota Historical Society, St. Paul; Maurice Frink, Executive Secretary, and Agnes Wright Spring, Historian, The State Historical Society of Colorado, Denver; Nyle H. Miller, Secretary, State Historical Society of Kansas, Topeka; Dr. James C. Olson, former Superintendent, Nebraska State Historical Society, Lincoln; Dr. William J. Peterson, Superintendent, State Historical Society of Iowa, Iowa City; Russell Reid, Superintendent, State Historical Society of North Dakota, Bismarck; Will G. Robinson, Secretary, South Dakota State Historical Society, Pierre; Dr. Floyd C. Shoemaker, Secretary, State Historical Society of Missouri, Columbia.

Mrs. Alice G. Good, Director of Library and Archives, Phoenix; Dr. Emil W. Haury and Dr. W. W. Wasley, Arizona Museum, Tucson; Dr. A. R. Mortenson, Director, Utah State Historical Society, Salt Lake City;

Gil Proctor, Kitchen's Ranch, Nogales.

Mrs. Clara S. Beatty, Director, Nevada State Historical Society, Reno; Albert Culverwell, Historian, Washington State Park Commission, Olympia; Dr. Aubrey Neasham, Historian, California Division of Beaches and Parks, Sacramento; H. J. Swinney, Director, Idaho Historical Society, Boise; Thomas Vaughan, Director, Oregon Historical Society, Portland. The cover illustration is the work of Dick T. Morishige, Western Museum Laboratory, National Park Service.

## INTRODUCTION

Of the forces which determined American national character perhaps the most potent was the frontier. Here life returned to the primitive in successive stages as settlers moved to that receding borderland between savagery and civilization and the United States expanded to the Pacific. This fact was first clearly stated by Frederick Jackson Turner in a paper read before the American Historical Association in 1893, entitled "The Significance of the Frontier in American History." He believed that the existence of free or cheap land on the margin of advancing settlement attracted people seeking to acquire property and to improve their economic and social status. In his own words, "the existence of an area of free land, its continuous recession, and the advance of American settlement westward, explain American development."<sup>1</sup>

Life and society on the frontier were simple. With the growth of population, new customs, laws, and institutions evolved so that New England differed from England and the American West from the American East. Many critics have attacked Turner's frontier hypothesis without proving the frontier less significant in American history. Turner did not explain everything about all frontiers, but the fact remains that a succession of frontier experiences through three centuries contributed much to American national characteristics.

Turner divided the successive frontiers in American history into different categories. He wrote as follows: "Stand at Cumberland Gap and watch the procession of civilization marching single file--the buffalo

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<sup>1</sup>Frederick Jackson Turner, The Frontier in American History (New York, 1920), 1.



Idaho Homestead. The life of the homesteader was invariably hard, unremitting labor, with little comfort and few interruptions in the monotony.

Courtesy, Idaho Historical Society

following the trail to the salt springs, the Indian, the fur-trader and hunter, the cattle-raiser, the pioneer farmer--and the frontier has passed by. Stand at South Pass in the Rockies a century later and see the same procession with wider intervals between."<sup>2</sup>

Last in Turner's frontier procession were the farmers. With them the frontier passed. Unlike the hunters and cattlemen, they were not content to adapt themselves to environment; they sought to subdue and control it. They cut the forests, ripped up prairie grasslands with newly devised plows, and brought dry lands into cultivation by means of irrigation ditches.

Although in most sections the Indian barrier receded somewhat ahead of the advancing frontier of the farmer, the pioneer farmers generally disliked the Indians and favored their removal from lands which might be suitable for agriculture. Participants in some militia and volunteer forces, they did their share of fighting as Indian tribes were subdued and forced onto reservations. The seizure of Indian lands was an important motivation in westward expansion. Frontier farmers as a class must assume a part of the responsibility for those harsh governmental Indian policies which inspired Helen Hunt Jackson to write A Century of Dishonor.<sup>3</sup>

Frontier farmers as a group were poor and had difficulty in raising enough cash to buy lands from the government. Failure to secure land titles forced many settlers to move to more remote frontiers when their farms were sold to speculators or farmers with more financial resources. Pioneers of the frontier had a reputation for seeking solitude, but those who did were

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<sup>2</sup>Ibid., 12.

<sup>3</sup>This book was published in London in 1881 and is reputed to have had a strong influence upon President Cleveland.

often squatters who lacked legal ownership to the lands they occupied. They feared that too many neighbors might attract the speculators. One curious fact about the frontier is that its advance was speeded by many evictions. In addition to the westward movement of squatters, other farmers with title to their lands were tempted by rising values to make profitable sales and move on to repeat the process in an undeveloped locality. Many experienced pioneer farmers moved several times, taking profits as they went. Those farmers who came west and purchased lands after the most primitive phases of the frontier had passed were usually in possession of more capital and better equipment; these remained to build up permanent agricultural communities.<sup>4</sup>

Frontier farmers usually had had some previous farm experience. The laboring class of eastern cities supplied few frontiersmen.<sup>5</sup> In most instances these people did not even have the resources to get to the frontier. There were, of course, some notable exceptions in the matter of farming experience. Many fur traders and hunters, both American and French-Canadian,<sup>6</sup> retired and became farmers. Among members of religious groups--Mormons and others--there were those without agricultural experience, but they survived as a result of the cooperative nature of the endeavor.

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<sup>4</sup>Turner, op. cit., 137, 170, 272, 273, 328; Douglas Branch, Westward (New York, 1930), 157, 397-399.

<sup>5</sup>Fred Albert Shannon, "The Homestead Act and the Labor Surplus," American Historical Review, XL (July, 1936), 637-651, and "A Post Mortem on the Labor-Safety-Valve Theory," Agricultural History, XIX (January, 1945), 31-37.

<sup>6</sup>Grace Lee Nute, The Voyageur (New York, 1931), 177-178.



No Fertilizer, No Surplus. A horse-drawn hay rack shocking wheat on an Idaho farm which produced 52 bushels to the acre.

Courtesy, Idaho Historical Society

## LAND LAWS OF THE FARMER'S FRONTIER

As American settlers pushed into the West and sought to acquire land they were, theoretically at least, governed by a series of laws which never seemed entirely satisfactory. They either did not fit the conditions of soil and climate or they favored speculators and large landholders rather than "small farmers."<sup>7</sup> The Land Law of 1820 reduced the price of public land as low as \$1.25 an acre and permitted the sale of eighty-acre tracts. Thus anyone who had \$100 cash could buy a farm from the government. This law remained until changed by the Homestead Act of 1862.

Despite the apparent cheapness of farm land, thousands of settlers could not raise the necessary cash; they simply settled in vacant areas without benefit of title. As this group became more numerous it brought pressure on Congress to legalize occupancy by establishing "pre-emption rights." Prior to 1840 Congress yielded gradually to the demands of "squatters" and granted relief to special groups. Finally a general pre-emption act was passed by Congress in 1841 which gave squatters the right to purchase lands upon which they had settled, and specified that the sale should be at minimum price.<sup>8</sup> The act did not completely satisfy the squatters but it did provide that their lands could not be sold to speculators without ample warning. The pre-emption law was seriously abused by land grabbers who often hired counterfeit farmers to pre-empt land for them.

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<sup>7</sup> LeRoy R. Hafen and Carl Coke Rister, Western America (New York, 1941), 102-106, contains a summary of United States land laws.

<sup>8</sup> Roy M. Robbins, "Pre-emption--A Frontier Triumph," Mississippi Valley Historical Review, XVIII (December, 1931), 339-349. This article contains a general discussion of land laws prior to 1820 (pp. 333-339) and excellent description of the law of 1841 and its operation until repeal in 1891 with the disappearance of the frontier.

The Homestead Act, passed in 1862, provided that any American citizen or person in the process of becoming naturalized could obtain 160 acres of government land. The applicant was required to live on his land for five years, make improvements, and begin cultivation. At the end of that time he received title by paying only a registration fee. The settler also had the option of securing title at the end of six months by paying the minimum price at that time.<sup>9</sup>

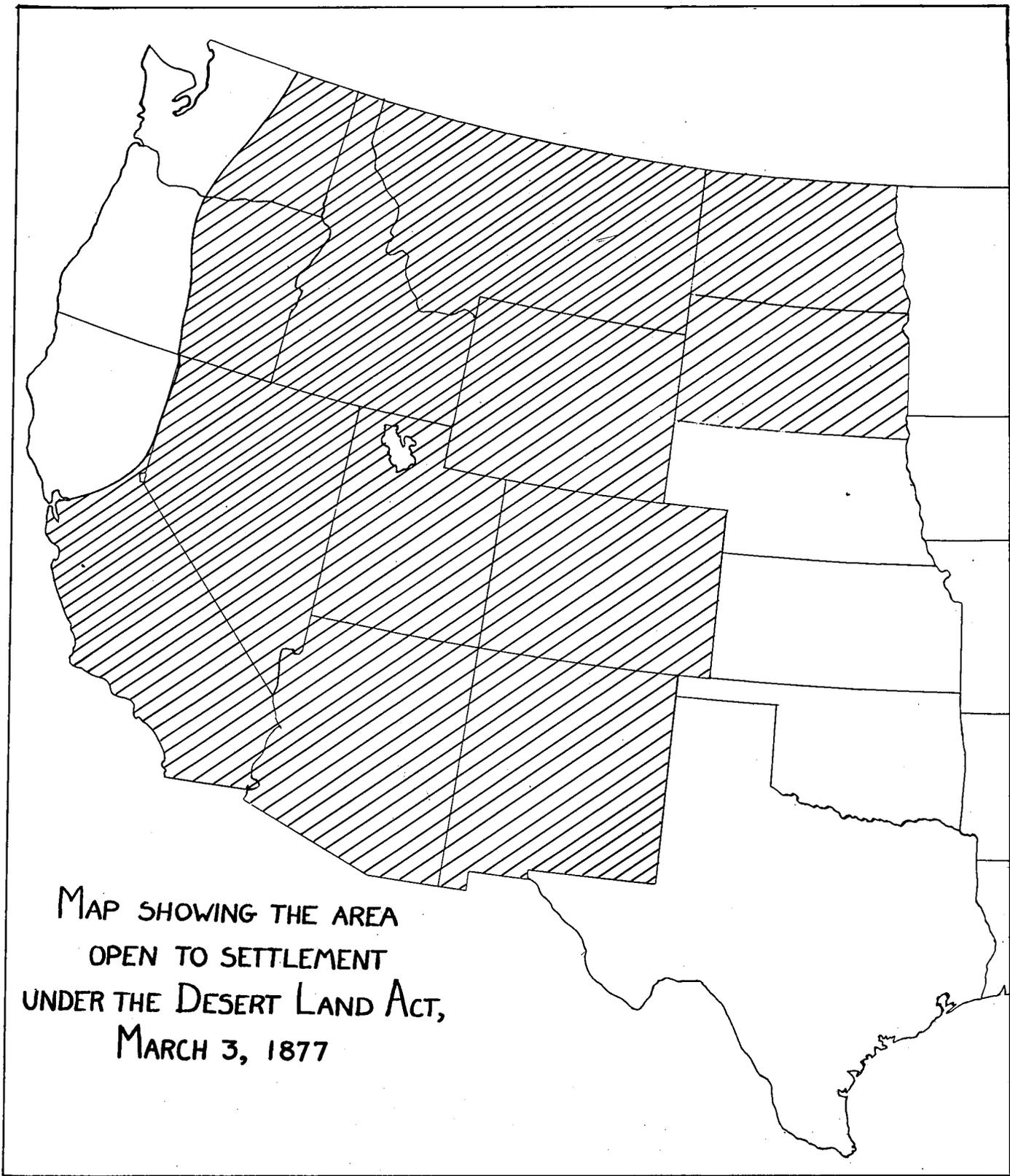
When the Homestead Act was passed, Congress was also engaged in giving away great portions of the public domain to stimulate railroad construction, especially to the transcontinental lines which became avenues of frontier advance after the Civil War. Between 1850 and 1871 Congress granted to railroad companies as subsidies for construction an area approximately three times the area of Pennsylvania. Notable were grants totaling 40 million acres to the Union Pacific and Central Pacific in 1862 and 1864, and to the Northern Pacific. The Southern Pacific received large grants in the West Coast area. In many instances settlers found it more advantageous to purchase railroad land than to take up a homestead.<sup>10</sup>

Nevertheless, the passage of the Homestead Act caused great numbers of citizens and aliens to take advantage of free land. Experience quickly

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<sup>9</sup>Hafen and Rister, op. cit., 629; Shannon, "The Homestead Act and the Labor Surplus," American Historical Review, XL (July, 1936), 637-651; George Malcolm Stephenson, The Political History of the Public Lands from 1840 to 1862 (Boston, 1917), passim.

<sup>10</sup>Fred Albert Shannon, America's Economic Growth (New York, 1940), 368; Ray Allen Billington, Westward Expansion (New York, 1949), 701; John B. Rae, "Commissioner Sparks and the Railroad Land Grants," Mississippi Valley Historical Review, XXV (September, 1933), 214-228.



MAP SHOWING THE AREA  
OPEN TO SETTLEMENT  
UNDER THE DESERT LAND ACT,  
MARCH 3, 1877

showed that 160 acres were inadequate for making a living in the arid and semi-arid West. To remedy this situation, Congress passed a series of laws hopefully designed to benefit the far western farmer. The first of these was the Timber Culture Act of 1873. By this act, if a farmer planted forty acres of trees within a specified period of time, the quarter section of land on which the trees were located became his property. Later, the planting requirement was reduced to ten acres.<sup>11</sup>

In order to help those who farmed the intensely arid West, the Desert Land Act was passed in 1877. This legislation offered sections of land in the desert regions for \$1.25 per acre if the farmer would irrigate it within three years of the date he filed for the land. Only twenty-five cents an acre was due at filing time; the rest could be paid at the conclusion of the three-year waiting period. Proof of compliance with the law was necessary before clear title passed to the farmer.<sup>12</sup>

Two other laws passed by Congress in 1878 were the Timber Cutting Act and the Timber and Stone Act. Under the former act settlers and miners could cut timber on homestead land for their own use. By the latter law the government offered timber plots of 160 acres for \$2.50 an acre. The landowner was required to sign an affidavit stating that timber cut from this land was for his personal use and not for speculative purposes. These laws, it was hoped, would make the task of acquiring land much easier for the individual farmer.

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<sup>11</sup> William F. Raney, "The Timber Culture Acts," Mississippi Valley Historical Association, Proceedings, X (1919-1920), 219-229.

<sup>12</sup> Roy E. Huffman, Irrigation Development and Public Water Policy (New York, 1953), 19; Roy M. Robbins, Our Landed Heritage (Princeton, N. J., 1942), 219.

The Desert Land Act was changed in 1890 to permit farmers to purchase 320 acres. The 640-acre requirement had been to the small farmer's disadvantage. Despite an irrigation boom in the 1890's, the law still worked in favor of large ranchers, irrigation companies, and land grabbers in general. Cattle companies acquired great domains under the Desert Land Act merely by controlling the water supply and by scratching a furrow or two from the water to the "irrigated" land. Giant lumber combines obtained vast holdings of priceless timber land under the timber acts. The classic example was the company that received over 100,000 acres of valuable California redwoods under these acts. Company employees did not hesitate to file on these tracts for their employers. Graft and corruption in the Land Office itself condoned this practice. Much of the Public Domain was frittered away before Congress awakened. In 1891, repeal of the Pre-emption Act closed this lucrative land-grabbing practice, but not before most of the valuable public land had been given away.<sup>13</sup>

One of the many defects of the Desert Land Act was that it actually defeated itself. Farmers needed to raise capital to irrigate their homesteads and thus secure title. However, they could not use them as security for loans until they had title.

To remedy the situation, Congress passed the Carey Act in 1894 which provided for the transfer of government lands to states up to a million acres in arid regions which might be irrigated. The condition of the grant to each state was that it would irrigate within ten years at least twenty acres of each 160 actually farmed. Many western states accepted the

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<sup>13</sup> Arthur Cecil Bining, The Rise of American Economic Life (New York, 1955), 466; John T. Gano, "The Desert Land Act in Operation, 1877-1891," and "The Desert Land Act since 1891," Agricultural History, XI (April, 1937), 142-157; (October, 1937), 266-277.



Boom Town. Action in El Reno, 1890, a few days after Oklahoma was opened to the Boomers.

Courtesy, National Archives

conditions. In general they made contracts with private companies to construct irrigation projects, and these in turn sold or leased water rights to the farmers.<sup>14</sup>

#### ADVANCE OF THE FARMER'S FRONTIER TO THE NINETY-FIFTH MERIDIAN

Missouri was the gateway to the far western frontiers. During the Spanish period many French refugees from Illinois and Canada established themselves in what is now Missouri. Prior to the Seven Years' War there had been only one insignificant village, St. Genevieve, in the area, but thereafter several new establishments were made, including St. Louis. Due to generous land policies of the Spanish government, Americans began to move west of the Mississippi River as early as the 1780's. Here they settled in the outskirts of the somewhat primitive French establishments. In the Missouri regions, as later in California, Texas, New Mexico, Oregon, and even a few spots in the Upper Mississippi Valley, the American frontier was a secondary frontier in so far as agricultural beginnings were concerned. By the time the United States acquired Louisiana in 1803, the American farmer frontier was so well established in the eastern Missouri country that, according to the best estimates, three-fifths of the total population was American.<sup>15</sup>

The new territory attracted many people from the Ohio Valley and adjacent regions. Immigration diminished somewhat during the War of 1812, but at its termination an extensive migration of farmers began. The main

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<sup>14</sup> Benjamin Horace Hibbard, A History of the Public Land Policies (New York, 1939), 429; Huffman, op. cit., 18-24.

<sup>15</sup> Lawrence Kinnaird, "American Penetration into Spanish Louisiana," New Spain and the Anglo-American West (2 vols., Lancaster, Pa., 1932), I, 222, 226.



Tent School. Homesteaders provided schools for their children whenever possible, with sod or canvas the accustomed building material.

objectives were the bottom lands of the Missouri, and its tributaries the Gasconade and Osage Rivers. By 1820, settlement along the Mississippi and Missouri Rivers was extensive enough to accomplish the admission of Missouri as a state. In like manner, settlement along the Arkansas River resulted in the admission of Arkansas in 1836.<sup>16</sup>

The legend of the Great American Desert beyond the ninety-fifth meridian spread by Pike and other explorers caused the government as well as prospective settlers for many years to regard the area as unsuitable for farming.<sup>17</sup> The process of Indian removal to lands beyond the ninety-fifth parallel officially began in the 1820's. Tribes east of the Mississippi were moved into the territory of various Plains Indians, and they in turn were pushed still farther west. The directors of Indian policy conceived the idea that the ninety-fifth meridian should be the "permanent Indian frontier," and by 1840 its establishment had been effected with great hardships to the Indians involved.<sup>18</sup> There had been some resistance as in the case of Black Hawk's War of 1832, but the farmers' demands for Indian lands was in the end irresistible. The "Black Hawk Purchase" was opened to settlement in 1833, and within three years the population of the Iowa region was approximately 10,000. Additional Indian lands were purchased, and by 1840

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<sup>16</sup>Billington, Westward Expansion, 467-468.

<sup>17</sup>Ralph C. Morris, "The Notion of the Great American Desert East of the Rockies," Mississippi Valley Historical Review, XIII (September, 1926), 190-200.

<sup>18</sup>Robert E. Riegel, America Moves West (New York, 1956), 314-317.

the population of Iowa was 43,000. The Pre-emption Law of 1841 furnished additional incentive to settlement, and settlers were attracted from as far distant a region as New England by reports of rich lands. By the time Iowa became a state in 1846 it was already famous for its production of corn.<sup>19</sup>

With the exception of a few French-Canadian settlements, the pioneers of Minnesota were lumbermen. Lumber towns grew up at the Falls of St. Anthony, Monticello, St. Cloud, Little Falls, Stillwater, St. Francis, St. Paul, and elsewhere. These communities furnished markets for agricultural products, and farmers gradually moved into cut-over lands. The population grew to approximately 4,000 by 1894, and Congress created a territorial government for the Minnesota area and most of the Dakotas. Demands by farmers and lumbermen for more land induced the government to begin the process of moving the Sioux of Minnesota to the West. A great rush of settlers followed, and by 1858 Minnesota was a state.<sup>20</sup>

#### BEGINNINGS OF AGRICULTURE IN OREGON

The Lewis and Clark Expedition was responsible for arousing great interest in the Far West and was the first of a series of circumstances which caused the agricultural frontier to jump from the Missouri country to

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<sup>19</sup> Cardinal Goodwin, "The American Occupation of Iowa, 1833-1860," Iowa Journal of History and Politics, XVII (January, 1919), 87-102; Dan E. Clark, "The Westward Movement into the Upper Mississippi Valley During the Fifties," Mississippi Valley Historical Association, Proceedings, VII (1913-14), 212-219.

<sup>20</sup> Goodwin, "The Movement of American Settlers into Wisconsin and Minnesota," Iowa Journal of History and Politics, XVII (July, 1919), 417-428.

the Pacific Coast almost as quickly as it moved up the Mississippi to the river counties of Iowa or, for that matter, to the western boundary of Missouri itself.

John Jacob Astor of New York was indirectly associated with the evolution of agriculture in Oregon, although his objective was taking over the fur trade of the Columbia River valley. He dispatched thirty-three traders by sea on the "Tonkin" and sent out an overland expedition under the leadership of Wilson Price Hunt. The sea expedition arrived in the Columbia in March, 1811 and began the construction of a fort which was named Astoria.<sup>21</sup> Soon thereafter, Hunt's party reached the post. On June 29, 1812 a party of Astorians began the return journey to St. Louis, which was notable for the fact that they used the route later known as the Oregon Trail and probably crossed the Continental Divide at or near South Pass.<sup>22</sup> The Oregon Trail was the route later followed by thousands of immigrants to Oregon and became of great importance in the advance of the farmer frontier to the Pacific.

Although Fort Astoria was a trading post, it was also the place where one of the first attempts to till the soil was made by Americans on the Pacific Coast. Garden seeds brought on the "Tonkin" were planted in May. Some of the plants did not mature, but the "root crops" did well.<sup>23</sup>

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<sup>21</sup> Oscar Osburne Winther, The Old Oregon Country, A History of Frontier Trade, Transportation, and Travel (Bloomington, Ind., 1950), 82-83; Charles H. Carey, A General History of Oregon Prior to 1861, 2 vols. (Portland, Oregon, 1935-1936), I, 171-180.

<sup>22</sup> Philip A. Rollins, ed., The Discovery of the Oregon Trail: Robert Stuarts Narratives (London and New York, 1935), 270-271; Winther, op. cit., 85-86.

<sup>23</sup> Carey, op. cit., I, 180; II, 680.



A View of the Cowlitz. Along this river the Hudson's Bay Company in 1839 established Cowlitz Farm as a part of the Puget's Sound Agricultural Company.

N. P. S. photograph

The garden was maintained throughout the life of the post, although at the beginning of the War of 1812 Astor's agent sold it to the British North West Company. When the North West was amalgamated with the Hudson's Bay Company and Dr. John McLoughlin became superintendent of operations in the Oregon country, a new post, Fort Vancouver, was founded and became the company's headquarters.

While the main function of the post was the fur trade, agricultural development was also important. Under McLoughlin's direction the first plantings were made at Fort Vancouver in 1825, from seeds and grain imported from England. Wheat and oats produced well but corn was not successful. Within three years sufficient wheat was grown and flour produced to supply the company's posts. Thereafter no additional importation was necessary. Livestock was imported and experiments were made with fruit growing. Agricultural development took place at several of the posts operated by the company. Farm land in the vicinity of Fort Vancouver by 1836 amounted to about 3,000 acres; there were also farms by that time at Nisqually on Puget Sound and on the Cowlitz River. Reverend Samuel Parker, visiting Fort Vancouver in the middle thirties, reported that livestock totaled 100 horses, 450 cattle, 200 sheep, 40 goats, and 300 hogs. Wheat production amounted to 5,000 bushels and the quality was superior. Other crops for 1835 included approximately 1,300 bushels of potatoes, 1,000 bushels of oats, 1,000 bushels of barley, 2,000 bushels of peas, and a great variety of other vegetables.<sup>24</sup>

French-Canadian employees of the Hudson's Bay Company became pioneer farmers in Oregon. Etienne Lucier settled in 1828 in the Willamette Valley after he left the service of the Hudson's Bay Company. He tried out

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<sup>24</sup>Carey, op. cit., II, 680-681.

the land in the vicinity of what is now East Portland but the following year moved to a better location about three miles above Champoeg. At approximately the same time Joseph Gervais began small-scale farming at French Prairie. Other French-Canadians soon settled in the same district. Joseph Delor and Jean B. Ferrault settled there soon after Gervais. The Hudson's Bay Company in 1831 permitted employees Michel La Framboise and Thomas McKay to take up farms without resigning from the company's service. By 1834 McKay's establishment, which was on Scappoose Creek, became prosperous enough to warrant the employment of Louis La Bonte as foreman.<sup>25</sup>

Eight or nine Americans who came to Oregon with the Nathaniel Wyeth expedition of 1832 remained there. Some of them took up farm land. Solomon H. Smith and Calvin Tibbets settled on Clatsop plains. Smith married the daughter of a local Indian chief. John Ball gave up farming after a brief trail and returned home. On his second visit to Oregon, in 1834, Wyeth himself acquired an extensive piece of land but did not remain to farm it. Samuel Parker, who visited the Willamette Valley in 1835, estimated that twenty families were already settled there. Father Blanchet gave an estimate of twenty-six families by 1838. Thereafter the flow of settlers from the East increased enormously.<sup>26</sup>

Settlers other than Americans also reached the Oregon country in the early 1840's. One party which had left the Red River settlement in Canada in June, 1841, was induced by the Hudson's Bay Company to establish itself on Puget Sound. This group founded a settlement known as Fort Nisqually on November 8, 1841. Dissatisfied with the region, about half of the group

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<sup>25</sup> Ibid., I, 267-268.

<sup>26</sup> Ibid.



Fort Nisqually. Established on Puget Sound in 1833 by the Hudson's Bay Company, Fort Nisqually was both farm and fur trading post. One of the original buildings has been moved to Point Defiance Park in Tacoma, and the fort has been reconstructed.

N. P. S. photograph

later moved to the Cowlitz and Willamette valleys.<sup>27</sup>

Three years after the end of the War of 1812, a treaty was negotiated between the United States and England which fixed the boundary from the Great Lakes to the Rockies but specified a "joint occupation" of Oregon for ten years. This arrangement was renewed in 1828 and remained in effect until the treaty of 1846 established the present boundary. Before the 1830's little was known in the United States about Oregon. A few enthusiasts such as John Floyd and Hall J. Kelley aroused sufficient interest to induce the Methodist and Presbyterian churches to send missionaries to work among the Oregon Indians. Jason Lee, his nephew Daniel Lee, and Cyrus Shephard were first sent out by the Methodists. The overland journey to Fort Vancouver was made with the assistance of Nathaniel Wyeth and his company of traders. Dr. McLoughlin dissuaded the missionaries from attempting to set up a mission in the Flathead country and sent them into the Willamette Valley where there was already a considerable number of settlers. Here they established themselves late in 1834. In the spring, with the aid of Dr. McLoughlin, thirty acres were plowed and planted. The area under cultivation was increased and the establishment became much more successful for its agriculture than for conversion of the Indians.<sup>28</sup>

Jason Lee returned to the East in 1838 to appeal for greater support by the missionary board. As a result he received a reinforcement of fifty-one persons, of whom a considerable number were laymen. The increased personnel permitted the expansion of missionary activities to Clatsop near

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<sup>27</sup>Ibid.

<sup>28</sup>Winther, op. cit., 97-98; Carey, op. cit., I, 288-292; John Walton Caughey, History of the Pacific Coast (New York, 1938), 228-230.

the mouth of the Columbia, Nisqually on Puget Sound, and the Dalles. As on the Willamette, the missionaries had greater success cultivating crops than converting Indians, and eventually work with the Indians was abandoned.<sup>29</sup>

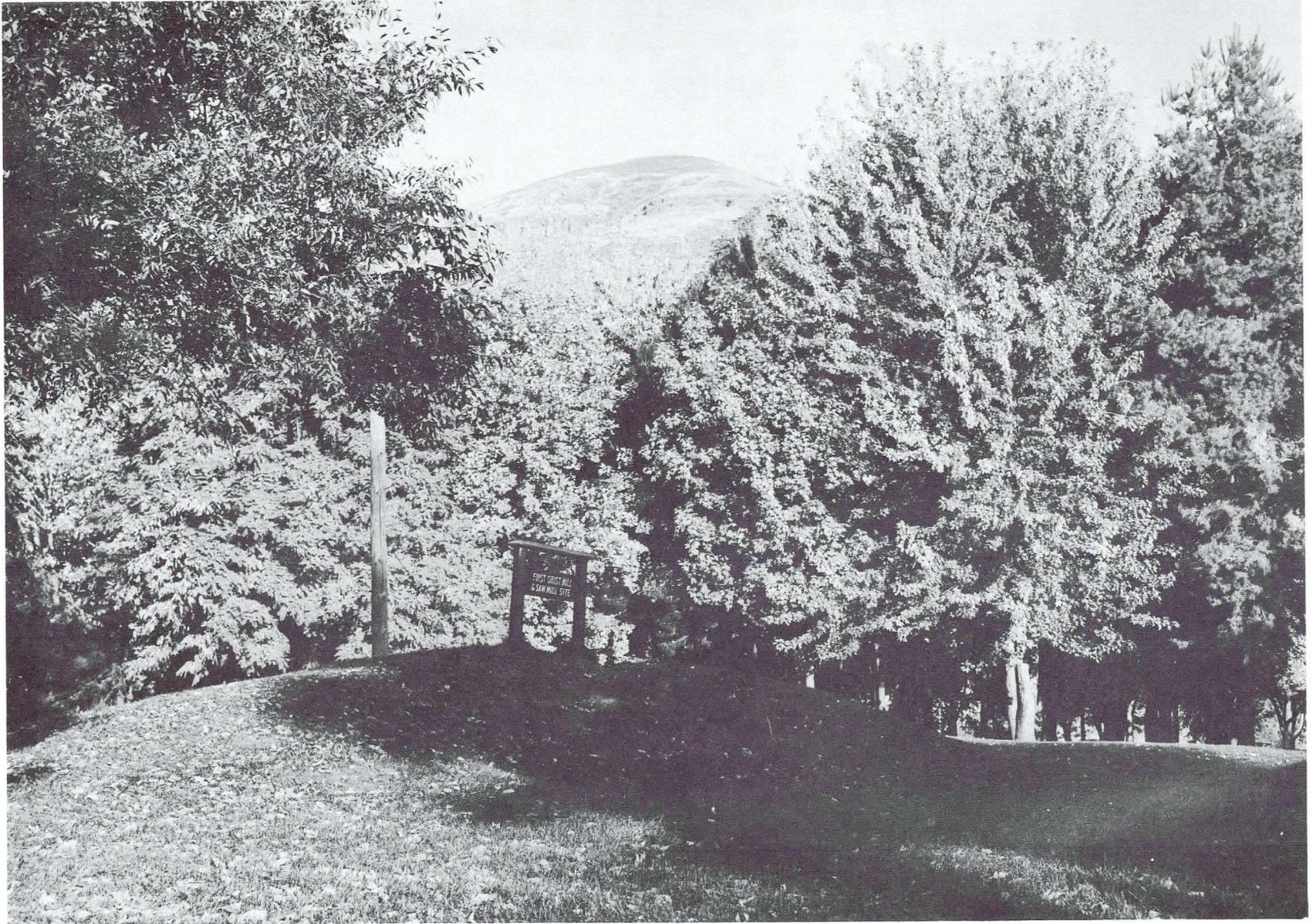
Presbyterian missionary endeavors paralleled those of the Methodists. Marcus Whitman led a group of Presbyterian missionaries to Oregon in 1836 and established missions at Waiilatpu about twenty-five miles from Walla Walla, at Clearwater in the Nez Perce country to the east, and at the present site of Spokane. Schools for Indian children were begun, and farming was undertaken for the purpose of making the missions self-sustaining. As in the case of the Methodist missions, they were more successful in farming than in winning the Indians to Christianity.<sup>30</sup>

Since the country east of the Cascades suffered from scanty rainfall, Whitman at Waiilatpu and Henry Spalding at Lapwai experimented with irrigation and produced excellent crops. It was reported that the Indians wanted to use water from Whitman's ditches but that he refused. Whereupon they blocked the water flow into his ditches. The missionary finally helped them build their own ditches and assured them that there was enough water for all. Thus the first dispute over water occurred in the Oregon country. During the same period Wyeth expressed the opinion that irrigation would be necessary to support a large population in the area. One of the chief contributions of the missionaries was to publicize the agricultural

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<sup>29</sup>Hubert Howe Bancroft, History of Oregon (2 vols.; San Francisco, 1886-1888), I, 154-183; Carey, op. cit., I, 266, 292-298.

<sup>30</sup>Carey, op. cit., I, 305-306; Caughey, op. cit., 232; Bancroft, op. cit., I, 134-137; Joseph Schafer, A History of the Pacific Northwest (New York, 1930), 121-124.



Agriculture Comes to Idaho. At Spalding Mission, founded in 1835, the Nez Perce Indians helped plant the first crops raised in Idaho. The gristmill and sawmill site is shown in Spalding State Park.

N. P. S. photograph

possibilities of the Far Northwest.<sup>31</sup>

For both Oregon and California, 1841 was a crucial year. The first overland parties of American emigrants came into these regions with the purpose of settling on the land. Previously there had been traders who came by sea and by land, missionaries, and government explorers, but few farmers. The 1841 party which came to Oregon numbered thirty-two. The following year more than a hundred persons arrived with the purpose of taking up good farm land. The propaganda of missionaries and other Oregon enthusiasts was finally producing results: the Oregon trail was becoming a well-beaten path. In the Great Migration of 1843 a thousand or more Americans came to Oregon. Until the discovery of gold in California the migration continued to be heavy. Estimates of people arriving in Oregon run as follows: More than 500 in 1844; approximately 3,000 in 1845; 1,350 in 1846; 4,500 in 1847; and 700 in 1848. Most of the families who came to Oregon settled on farms.<sup>32</sup>

By the end of 1845 the best lands in the Willamette Valley had been taken and settlers began to move into areas north of the Columbia. A group of Americans made a settlement at Tumwater in the Puget Sound region in that year while others established themselves on the Cowlitz. The census of 1850 revealed that 1,049 settlers were living north of the river.<sup>33</sup>

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<sup>31</sup>Carey, op. cit., I, 306-307; II, 679, 682-683; Floyd R. Barber and Dan W. Martin, Idaho in the Pacific Northwest (Caldwell, Idaho, 1956), 29-31; Clifford Merrill Drury, Henry Harmon Spalding (Caldwell, Idaho, 1936), passim.

<sup>32</sup>Carey, op. cit., I, 375-378; Caughey, op. cit., 241; Bancroft in History of Oregon, vol. I, treats the American migration in great detail. Chapters XV, XVII, and XIX are devoted successively to the immigration of 1843, 1844, and 1845.

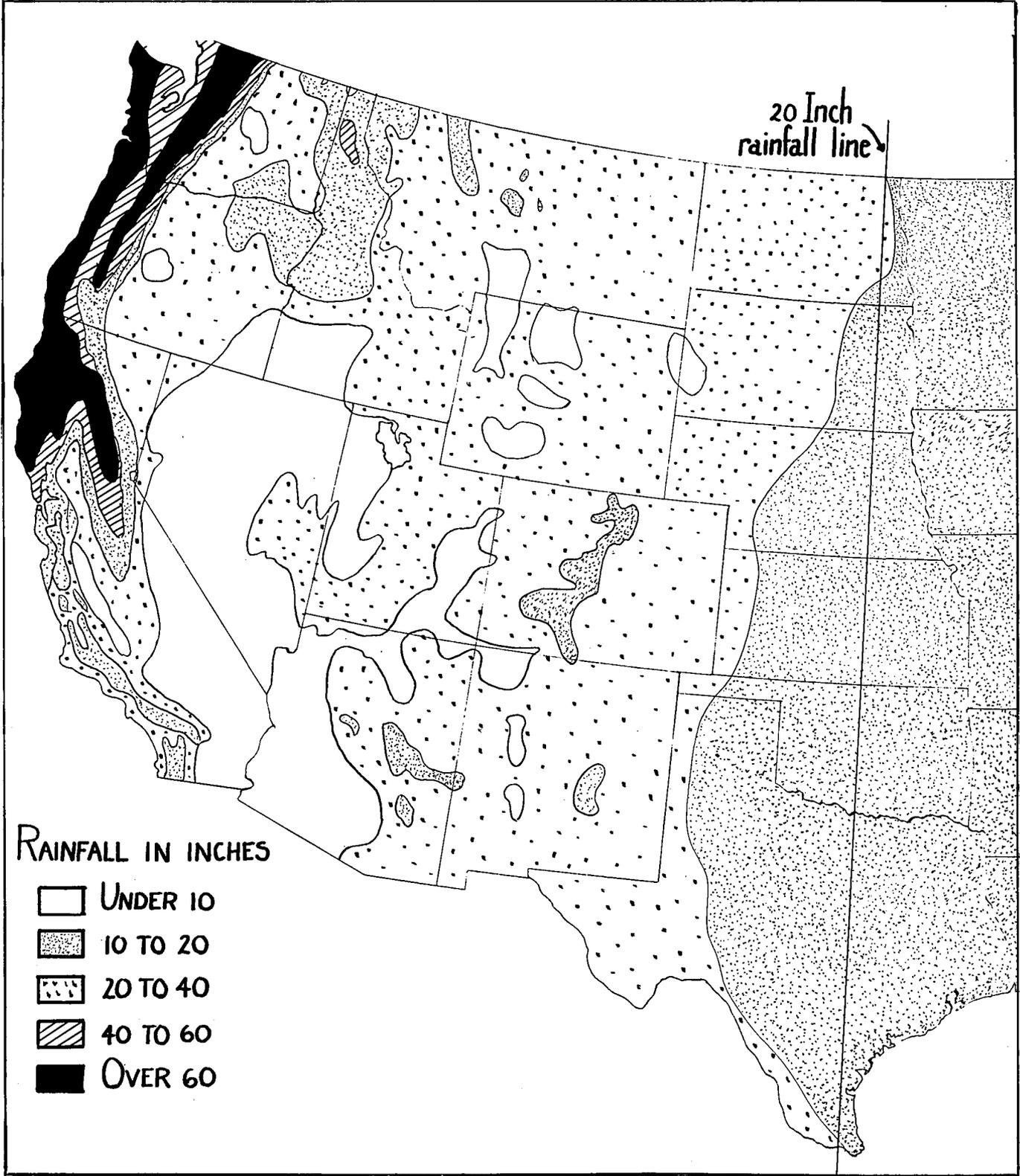
<sup>33</sup>Carey, op. cit., II, 482-483, 489-490; Oscar Osburn Winther, The Great Northwest (New York, 1947), 170.

In May, 1843 Americans in Willamette Valley met at Champeog and formed a provisional government. Later a constitution was drawn up and a legislative committee chosen. The American settlers continued to operate their own system of local self-government until the arrival of a territorial governor in 1849. The effectiveness of the provisional government was severely tested. Cayuse Indians attacked the Whitman mission and killed fourteen persons including Marcus Whitman and his wife. The provisional government raised a force of volunteers which set out to punish the Indians. A two-year period of intermittent fighting followed in which the Indians were driven from their homes. After suffering losses at the hands of the Americans, they finally surrendered the leaders of the massacre, and these were hanged. From this time there was almost a continuous pressure upon the Indian tribes of Oregon by the advancing farmer frontier. A series of Indian wars followed during which the Americans broke the resistance of one tribe after another until all were reduced to reservations.<sup>34</sup>

The influx of American farmers won Oregon for the United States. The arrival of farmers on a frontier always ruined the fur business and disturbed the Indians. Oregon was no exception. Before the advancing farmer frontier the Hudson's Bay Company began preparations to move its headquarters to Vancouver Island. The treaty of 1846 established the boundary line along the forty-ninth parallel and joint occupation was ended. Oregon territory was created by act of Congress on August 13, 1848. Already the Willamette Valley was well settled and the agricultural frontier was pushing into the regions north of the Columbia and east of the Cascades.

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<sup>34</sup> Winther, op. cit., 171-178; Bancroft, op. cit., I, 639-700.



20 Inch  
rainfall line

RAINFALL IN INCHES

- UNDER 10
- ▒ 10 TO 20
- ▓ 20 TO 40
- ▨ 40 TO 60
- OVER 60

## AMERICAN FARMERS IN CALIFORNIA BEFORE THE GOLD RUSH

Americans began to settle in California during the Mexican period of California history. Some came by sea as sailors or traders while others came overland with bands of trappers. Many became Mexican citizens and thus were eligible for grants of land. Some married into the landed families of the region. Cattle ranching was the chief occupation of the era and, despite the former agricultural development at the missions, cultivation of crops was neglected by most Mexican and American rancheros. There were some exceptions. Mariano Vallejo, founder of Sonoma in 1835, grew some grain, fruits, and vegetables north of San Francisco Bay and by 1840 had about 500 acres under cultivation. There were some vineyards at Los Angeles, and small orchards were to be found in the Santa Clara Valley and elsewhere. The first characteristic American farmer frontier of California made its appearance in the Great Central Valley, which Spaniards and Mexicans had not colonized. John Marsh, in December, 1837, purchased Los Meganos ranch from Jose Noriega. This ranch, which lay between Mt. Diablo and the present Brentwood, was the first to be operated successfully in the San Joaquin Valley. While Marsh's chief occupation was cattle ranching, he engaged in some subsidiary farming.<sup>35</sup>

If anyone deserves to be called the founder of American agriculture in California, it probably should be John A. Sutter, a Swiss immigrant who secured a grant of land from Governor Alvarado in 1840. The tract was on the east side of the Sacramento River, and on it Sutter constructed a fort named New Helvetia, from which grew Sacramento. He engaged in many activities:

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<sup>35</sup> Wallace Smith, Garden of the Sun (Los Angeles, 1939), 76-77. This is the best work upon the development of the San Joaquin Valley. See also, Myrtle M. McKittrick, Vallejo, Son of California (Portland, Oregon, 1944), 83, 91, 93, 175, 208.

trading, trapping, distilling, tanning, milling, and ranching. He also was a pioneer farmer and constructed a small irrigation system to water his crops. Sutter employed Indians, Hawaiian Islanders, and newly arrived Americans in the operation of his establishment.<sup>36</sup>

Sutter got his settlement under way at a critical time in California history. In 1840 there were only about 380 foreign-born residents of California, of whom most were Americans. The following year the first organized party of overland immigrants arrived under the leadership of John Bidwell. Like the 1841 party of Oregon immigrants, the group had set out for the West Coast, in search of the fertile lands and fine climate which had been widely publicized in the East. After a difficult journey, the Bidwell party arrived at the ranch of John Marsh in the fall of 1841. The group soon scattered, but several men went to work for Sutter at New Helvetia. From 1843 through 1846 one or more parties of Americans arrived in California each year, and Sutter's fort became their main objective. Some settlers even came down from Oregon. Sutter employed the immigrants or aided them in securing farms in the Sacramento Valley. By 1846 this area was becoming a little America where Spanish was not spoken and where Mexican officials seldom appeared.<sup>37</sup>

The Bear Flag Affair resulted from false fears among American settlers that Mexican officials intended to expel them from California.

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<sup>36</sup> Hubert Howe Bancroft, History of California (7 vols.; San Francisco, 1886-1900), IV, 127-138; Erwin G. Gudde, Sutter's Own Story (New York, 1936), 25-81; James Peter Zollinger, Sutter, The Man and His Empire (New York, 1939), passim.

<sup>37</sup> Robert Glass Cleland, A History of California: the American Period (New York, 1930), 91-122; Rockwell Dennis Hunt, John Bidwell (Caldwell, Idaho, 1942), 70, 95-116; Gudde, op. cit., 90-101.

Characteristically they took direct action and captured Sonoma, the most important military post north of San Francisco Bay. The Mexican War and the occupation of California by United States naval forces nullified the results of the uprising. Nevertheless, the growing farmer frontier in the Sacramento Valley was developing in the manner of the American establishments in Texas. Independence was just a question of time because the American farmers had come to stay.<sup>38</sup>

#### THE IRRIGATION FRONTIER OF THE FAR WEST

American pioneers who settled in the West found rich lands but little water. Farmers from the eastern rain belt had to learn farming over again because little of their previous knowledge was useful. Except in a few areas such as western Oregon, rainfall usually was not adequate to sustain crops. Intensive agriculture could only be developed by means of irrigation. Great labor was involved in building dams and digging ditches. There were other difficulties. After the land was cleared, it was necessary to level it to secure proper drainage. The eastern type of plowing was not satisfactory, and eventually a new plow was devised which enabled the farmer to plow across a field and then back again along the same furrow. This type was known as the two-way sulky plow.<sup>39</sup>

Americans who settled in California in the Mexican period became acquainted with agriculture by irrigation. Those who had visited New Mexico must have known something of the system. Brigham Young and his Mormon followers

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<sup>38</sup> Josiah Royce, California (New York, 1948), 46-72; Bancroft, op. cit., V, 77-121; Hunt, op. cit., 117-132.

<sup>39</sup> Everett Dick, "Going beyond the Ninety-Fifth Meridian," Agricultural History, XVII, 111; Walter Herbert Olin, American Irrigation Farming (Chicago, 1913), 79.



Modern Irrigation. Grapevines under irrigation in the San Joaquin Valley of California, from water supplied by the Central Valley water project of the Bureau of Reclamation.

Courtesy, Bureau of Reclamation

developed the first cooperative irrigation system on the agricultural frontier. Immediately after their arrival in 1847 at the present site of Salt Lake City, they began small-scale irrigation. Apparently Young and other Mormon leaders had studied conditions in the West and were well informed about California where irrigation was practiced.<sup>40</sup>

It is significant that religious groups were the irrigation pioneers in the Far West. The Franciscans in the California and New Mexico missions, the Presbyterian missionaries east of the Cascades in the Oregon country, and the Mormons in Utah, all utilized irrigation. The Mormons based their great colonization project upon agriculture by irrigation and in the beginning surpassed all other western farmers in irrigated farming. Only the Mormons avoided disputes over water rights and the construction and operation of irrigation ditches. The policies and strict rules of the Church supplied the control which was lacking among other farmers. Not only did the Mormons extend their settlement rapidly from their first establishment at Salt Lake City into other Utah areas, but they also penetrated adjoining regions in California, Arizona, Idaho, and Colorado. Their discipline and cooperation gave them an advantage over other settlers in areas where irrigation was essential to agriculture.<sup>41</sup>

One of the greatest centers of irrigated agriculture in the world is the San Joaquin Valley of California. The first extensive irrigation in

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<sup>40</sup>Leland Hargrave Creer, The Founding of an Empire, the Exploration and Colonization of Utah, 1776-1856, (Salt Lake City, 1947), 219-221, 297.

<sup>41</sup>Milton R. Hunter, Brigham Young the Colonizer (Salt Lake City, 1940), 55-60, 139-141, 361-366; Ray Allen Billington, The Far Western Frontier, 1830-1860 (New York, 1956), 202-203.

the area was undertaken by Edward Fitzgerald Beal on El Tejon ranch in 1851. By 1853 he had about 1,900 acres of wheat under cultivation. In the following year a ditch was dug from Mill Creek to Visalia and water rights were sold to settlers. Dr. Ruben Matthews was the promoter. Moses Church organized the Fresno Canal and Irrigation Company in 1870 and constructed the "Church Ditch" which carried water to the region of Fresno from Kings River. By 1870 about 60,000 acres were irrigated. The San Joaquin and Kings River Canal Company was financed by San Francisco capitalists, and the canal irrigated the area between Firebaugh and Newman. This irrigation system was later acquired by Miller and Lux, the notorious land grabbers.<sup>42</sup> Attempts by legislative action to control irrigation and permit the bonding of districts to finance construction failed when the first legislation was judged unconstitutional. Despite legal difficulties, rivalry, confusion, and violence, irrigation in the valley kept expanding. Finally, C. C. Wright of Modesto introduced a bill into the California legislature designed to displace the great irrigation corporations and to permit the taxpayers to create their own systems through organizing and bonding irrigation districts. The bill passed on March 7, 1867 and was a great victory for the average farmer. The Wright Law served as a basis for practically all similar legislation.<sup>43</sup>

Development of irrigation in Utah in the late 1840's was followed by that in the present state of Colorado. Here also Spanish influence was evident. Settlers from New Mexico began small-scale irrigation in the

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<sup>42</sup>Smith, Garden of the Sun, 448-450; Frank Adams, "The Historical Background of California Agriculture," California Agriculture (Berkeley, 1946), 44.

<sup>43</sup>Robert Glass Cleland and Osgood Hardy, March of Industry (Los Angeles, 1929), 203-205; Smith, op. cit., 462-463.



Boggs House. The adobe home of Thomas O. Boggs, built in 1866. Boggs was a leader in the first successful irrigation experiment in Colorado.

N. P. S. photograph

southern part of the area in the early 1850's, and gold discoveries later in the decade brought miners from California. The latter had gained a great deal of knowledge concerning the construction of dams and ditches which was utilized to the benefit of agriculture as soaring prices of foods made farming profitable. Apparently the first garden in the mining area was planted in 1859 at Golden by David K. Wall, who had spent four years in California. He irrigated his crop by bringing water through a ditch from Clear Creek.<sup>44</sup>

Colorado offers an example of the evolution in irrigation from an individual effort to a group or corporation enterprise. Pioneer farmers first occupied bottom lands along streams where it was relatively inexpensive to divert water onto the fields. As population increased, newcomers were forced to occupy higher lands more distant from the streams. Since irrigation was essential, it became necessary to construct longer and more expensive ditches. It was also evident that losses of water through seepage and evaporation were less from one large ditch than from numerous small ones. The situation led to the formation of group projects whereby newcomers tapped existing ditches, lengthened them, and did their share of maintenance work.<sup>45</sup>

As settlement in the arid West grew, irrigation in many localities evolved from privately constructed ditches to partnerships, community projects, and eventually to corporation-owned systems of water distribution. In 1864 one owner in Colorado constructed the Larimer and Weld Canal to water his 800 acres, but the project soon expanded into a partnership of several hundred owners and involved the irrigation of about 40,000 acres. The colony of

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<sup>44</sup>Alvin T. Steinel, History of Agriculture in Colorado (Fort Collins, Colorado, 1926), 180-184.

<sup>45</sup>Dick, op. cit., 107; Steinel, op. cit., 185-187, 195-205.

Greeley, Colorado was an example of a planned community irrigation project in which the success of the settlement depended upon jointly owned ditches. Because corporations could raise capital, their operations were usually on a large scale, sometimes supplying water for tracts of more than 100,000 acres. The Fort Lyon Canal of Colorado, constructed in 1884, had a length of 105 miles and irrigated 120,000 acres.<sup>46</sup>

American farmers had no previous experience with irrigation before entering the arid West, and there were no laws or customs to regulate the new and involved system of agriculture. Individualism was an important frontier characteristic, but this trait led to chaos when success depended upon cooperation and sacrificing certain individual rights for the community welfare. Furthermore, when corporations entered the irrigation business, there were no laws to regulate their actions. Elwood Mead, author of Irrigation Institutions, wrote: "Until farmers learned that they must place control of their ditch in the hands of one individual, there was either murder or suicide in the heart of every member of the partnership."<sup>47</sup> The nature of the climate and soil of the Far West forced a modification of the frontiersman's individualistic tendencies. He had to cooperate with his neighbors to dominate an adverse environment and protect himself against predatory interests.

As territorial and state governments were created in the Far West, irrigation laws were passed which gave stability to farming and protection to water rights. Until the 1870's, irrigation was largely local in character,

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<sup>46</sup> LeRoy R. Hafen, Colorado, the Story of a Western Commonwealth (Denver, 1933), 227-229; Dick, op. cit., 108.

<sup>47</sup> Elwood Mead, Irrigation Institutions (New York, 1903), 52.

with the exception of the Mormon communities. In a large number of regions farming had developed as a subsidiary to mining with most of the produce sold locally. There were some instances where farming was subsidiary to stock raising. As farming by irrigation increased, however, there was a strong belief in the West that irrigation was too great a problem for a territorial or even a state government to solve satisfactorily. As a result an Irrigation Congress was held at Denver in 1873, and the Federal Government was asked for assistance. President Grant, who was farsighted in his views concerning Federal aid to the arid West, favored the recommendations of the First Irrigation Congress. In his message to Congress in December, 1873, he advocated a government-constructed canal which would extend from the Rocky Mountains to the Missouri River and create a great belt of new farm land. The scheme, however, was far in advance of the times and consequently nothing was done about it.<sup>48</sup>

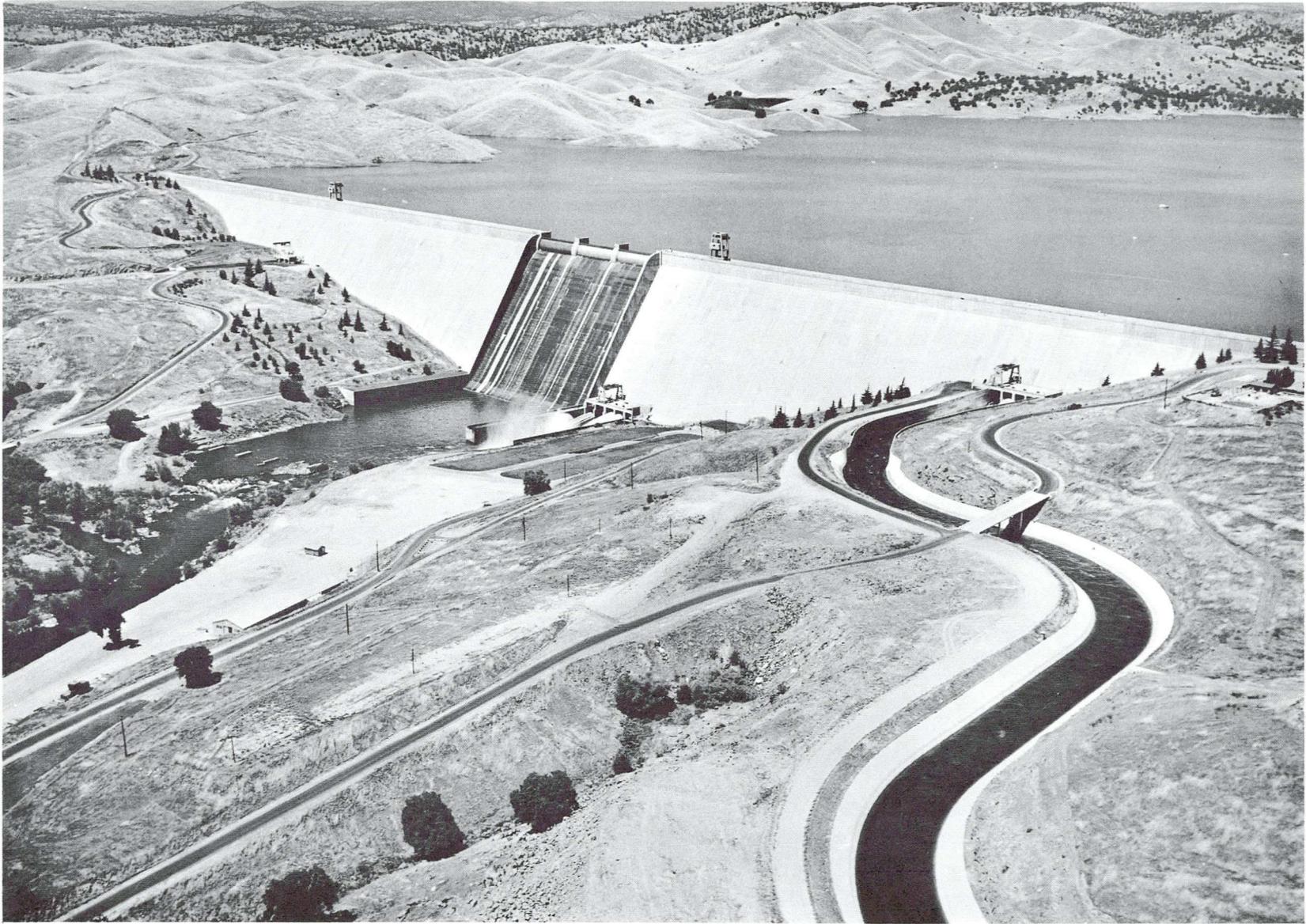
In the final decades of the nineteenth century a system of agriculture known as "dry farming" made its appearance in the Plains areas. To be profitable, this method of farming required much larger tracts of land than those farmed under irrigation. The publicity given to dry farming had two important influences upon the Government. First, Congress increased the size of farms obtainable under the Homestead Act to 320 acres. Second, the temporary popularity of dry farming caused delay in Federal Government aid to reclamation and irrigation in the West.<sup>49</sup>

Frederick Jackson Turner selected the year 1890 as marking the end

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<sup>48</sup>Jerome Constant Smiley, History of Colorado (2 vols.; New York, 1913), 574-575; Steinel, op. cit., 192-193; U. S. Bureau of Reclamation, Federal Irrigation Projects (Washington, 1926), 1-2.

<sup>49</sup>Dick, op. cit., 110-112; Billington, Westward Expansion, 692.



Storage and Supply. Shown above is the Friant Dam in the San Joaquin Valley of California. The Friant-Kern Canal, in foreground, 153 miles in length, diverts waters of the San Joaquin River for the use of farmers in southern California.

Courtesy, Bureau of Reclamation

of the frontier, but by that time population growth of the arid West was still insufficient to bring effective political pressure on Congress to recognize water conservation and use as a national rather than local problem. Finally, on June 17, 1902, the first Reclamation Act became law.<sup>50</sup> The Roosevelt Dam in Arizona, which was the first constructed by the Federal Government, was not completed until March, 1911. After this time the nature of agricultural settlement changed so that farming followed irrigation developments, whereas formerly farmers had moved onto unirrigated lands and then devised means to provide water. For western farmers who depended upon irrigation the date 1902 might well be selected as the end of the frontier. At that time Government aid began to take over from private enterprise in the development of irrigation and reclamation, and a new era was initiated.

#### PIONEER MORMON FARMERS IN UTAH

The new Mormon sect, subjected to persecution in Illinois and elsewhere in the Middle West, in 1845 decided to seek a place of refuge in the Far West. Under the direction of Brigham Young, advance agents were sent out to mark the route. Early in 1846 an exodus began from Nauvoo, the principal Mormon town. More than 12,000 faithful gradually assembled at winter quarters on the Missouri. Young drilled them in the practice of desert travel, and the first party began the westward journey about the middle of April, 1847. Other parties followed at regular intervals. When Young arrived at Fort Bridger, he was advised by Jim Bridger, the owner, not

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<sup>50</sup> The Reclamation Act of 1902 created a fund from the proceeds of public land sales in sixteen western states, and this money was used to construct and maintain irrigation systems. Huffman, Irrigation Development, 24-27; Hibbard, A History of Public Land Policies, 438-449.



The Fort at Pipe Spring. Built by a bishop of the Mormon church, and known as "Winsor Castle," the fort consisted of two stone buildings facing each other across a courtyard. One of the buildings stood directly over a spring.

N. P. S. photograph

to go into the Great Basin near Salt Lake because it was a desert, and no crops could be grown there. He urged Young to go to the Willamette, or, if he preferred a destination farther to the east, to the Cache or Bear valleys. In all these places, he said, white settlers and Indians were producing fine crops.<sup>51</sup>

Young and his followers did not take Bridger's advice but traveled on to the Great Salt Lake. An advance group made its final encampment on the bank of City Creek on July 23, 1847, and immediately set to work constructing a dam and ditches to bring water to the soil. Young arrived the next day and wrote in his diary, "Encamped with the main body at 2 p.m. About noon, the five acre potato patch was plowed, when the brethren commenced planting their seed potatoes." Soon additional land was put under cultivation.<sup>52</sup>

In selecting the Great Salt Lake region as their destination, the Mormons hoped to find no settlers in the area. However, there was one American already in the region and located only about forty miles from the new settlement. This first permanent establishment in the present state of Utah was made by Miles Goodyear on the Weber River, probably in 1845.

Near the mouth of the river in a pleasant location he built Fort Buenaventura. From limited information about him, it appears that he had some livestock--horses, cattle, sheep, and goats--perhaps obtained in New Mexico. After the arrival of the Mormons at Salt Lake in the summer of 1847,

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<sup>51</sup> Creer, The Founding of an Empire, 218-234, 271-290; Billington, The Far Western Frontier, 199.

<sup>52</sup> Creer, op. cit., 290-297; Orson F. Whitney, History of Utah (4 vols.; Salt Lake City, 1892-1904), I, 325-326.

Goodyear was approached with an offer of purchase, which he accepted. He turned over his claim, buildings, and stock to the Mormons and departed.<sup>53</sup>

With the settlement at Great Salt Lake under way, Young set out for the East to supervise the movement of other parties of immigrants. He had not traveled far when he met a great caravan of 1,553 people bringing with them much livestock and poultry. He later encountered other bands of emigrants on their way to the new colony. Before the end of 1847 more than 4,000 Mormons were settled near the southern end of Great Salt Lake. Young spent the winter gathering more followers. He urged them to bring all kinds of "choice seeds, grains, vegetables, fruits, shrubbery, trees, and vines." More than 4,500 settlers moved to Utah in 1848. The increase in population brought a food shortage despite the fact that 5,000 acres were brought under cultivation during the spring and summer. By hard work and strict discipline the Mormons weathered their early hardships.<sup>54</sup>

The Mormons established a new kind of farm frontier. Most of their early settlements were in communal groups, and their work was cooperative. The isolated individualist had less chance of success in the arid region of the Great Basin. Lands were allotted under authority of the Church, and, as has been previously stated, water was used on a cooperative basis. For these reasons the Mormons were more successful farmers than many others who moved into the dry lands of the West.

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<sup>53</sup> Creer, op. cit., 85-89

<sup>54</sup> Ibid., 304-305, 307-309; Billington, Westward Expansion, 539.



Pete Kitchen. Pioneer rancher and farmer in southern Arizona, he fought Apaches and bandits while supplying much of the Territory with food.

Courtesy, Tumacacori National Monument

## THE GOLD RUSH AND THE FARMER'S FRONTIER IN CALIFORNIA

The discovery of gold in California on January 24, 1848 changed the whole aspect of the American Far West. In the following year the great gold rush was on, and the population of California grew to more than 100,000 by the end of 1849. Three years later it was approximately a quarter million, and in 1860 the census figure was 380,015.<sup>55</sup>

The tremendous demand for food to supply the gold seekers at first furnished the Oregon farmers an excellent market. Soon men in California turned to grain growing as more profitable than gold mining. Some wise men bought ranches with gold they had taken from the mines. Notable among them was John Bidwell who mined in 1848 and 1849 at Bidwell's Bar on the Middle Fork of the Feather River. Shortly thereafter, he purchased Rancho Chico which he developed into one of the best agricultural establishments in California. The estate eventually included twenty sub-ranches, each devoted to a particular product. These ranged from wheat to fruits and from sheep to turkeys. Before Bidwell's death, there were 65,276 fruit and nut trees growing upon the ranch. Annual production of wheat sometimes ran as high as five and a half million pounds. Bidwell was a great agricultural experimenter, and his ranch maintained a large and profitable nursery.<sup>56</sup>

During the 1850's grain growing spread southward into the San Joaquin Valley, opening the era of the bonanza wheat ranches. Local production of

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<sup>55</sup>John Walton Caughey, California (New York, 1940), 305-306.

<sup>56</sup>Rockwell D. Hunt, John Bidwell, 152-153, 246-285.

wheat was insufficient to meet the demands of a rapidly growing population until about the year 1854. By 1860 production had greatly increased, and wheat became an important export product.<sup>57</sup>

There was a new influx of settlers into California's great central valley after the Civil War. As a result many more grain farms appeared in the late 1860's and 70's, and grain production was on a larger scale than had been previously known anywhere in the United States. Wheat ranches of 2,000 acres were considered rather small, and the largest sometimes attained the remarkable size of 40,000 acres. California produced slightly less than six million bushels of wheat in 1860, but the crop of 1890 was approximately forty-one million bushels. The latter year was selected by the historian Frederick Jackson Turner as the end of the frontier period, but the frontier had long before that disappeared in California. Production of barley, which in recent times has surpassed that of wheat, amounted approximately to four million bushels in 1860. The combined crops of grain in California, which in that year surpassed ten million bushels, indicated that farming, even then, had passed its pioneer stage.<sup>58</sup>

In the period 1850 to 1870 most of the California wheat was grown in the northern San Joaquin Valley and on the lower Sacramento where rainfall was usually sufficient for crops. The expanding acreage of wheat created

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<sup>57</sup>Adams, "The Historical Background of California Agriculture," California Agriculture, 35. In 1860 California had 262 ranches of more than 1,000 acres each (Eighth Census: Agriculture, 221) but by 1880 the number had increased to 2,531. (Tenth Census: Agriculture, 68-100).

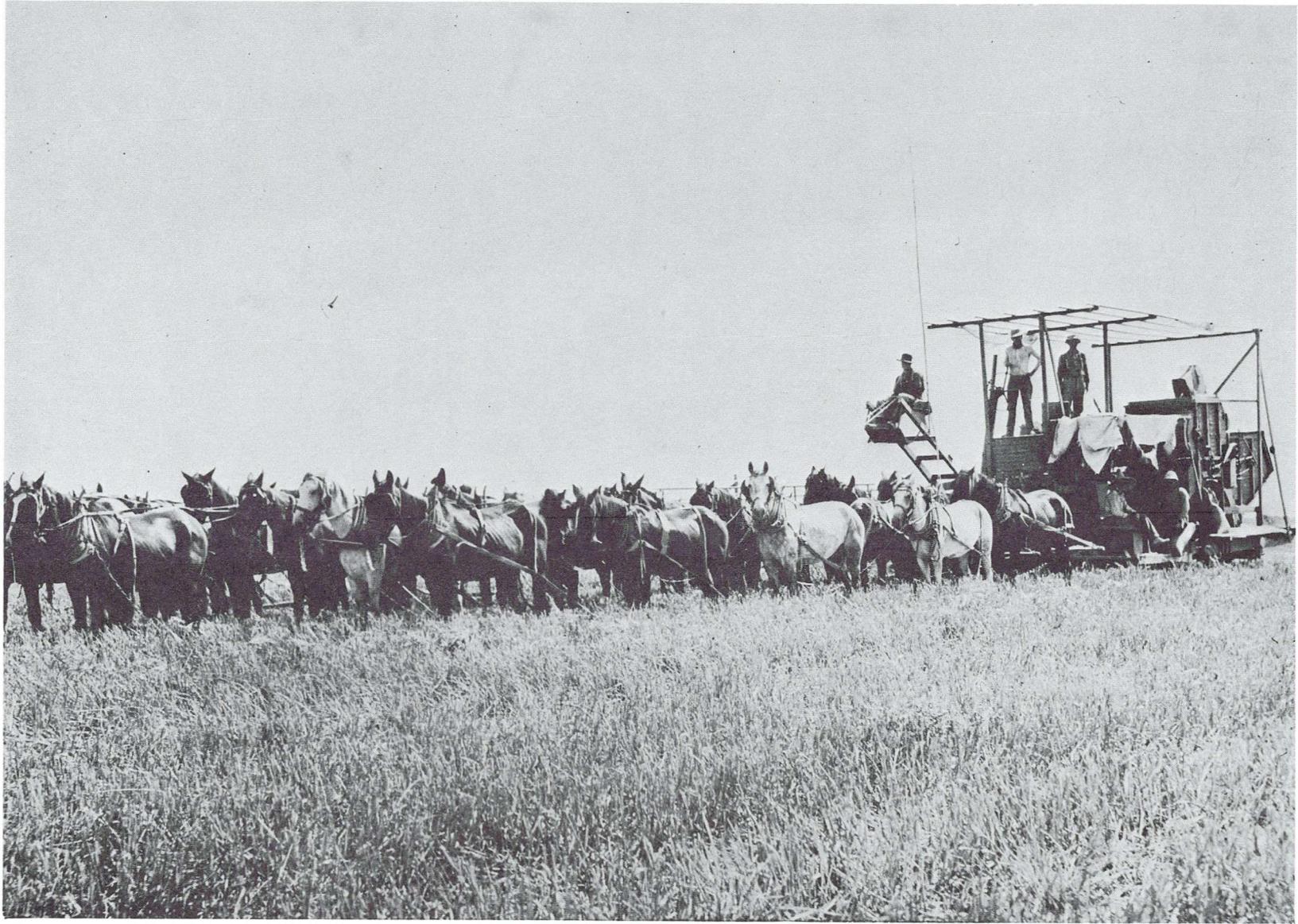
<sup>58</sup>Ibid. In 1870 California wheat production was 16,000,000 bushels, and in 1890 it was 40,000,000 bushels, which was second place in the nation. Cleland and Hardy, March of Industry, 73.

a market for improved agricultural machines. There were local inventions, notably the Stockton gang plow and the California type combined harvester-thresher. Stockton became a manufacturing center for farm equipment and machinery. By 1874 California ranked first among wheat-producing states. Barley production also increased because of its greater adaptability to a dry climate. The use of early cut grain as hay was a common California practice. Although alfalfa was introduced in 1851, it did not become an important crop for many years.<sup>59</sup>

In the two decades between the gold rush and the completion of the first transcontinental railroad, the largest agricultural earnings in California were derived from beef cattle, sheep, wheat, and barley. Yet in this period farmers were experimenting with a wide variety of crops and proving that they could be grown in the new state. Benjamin D. Wilson, who purchased a farm near Los Angeles, planted it with many varieties of fruit and grain, reported, in 1854, that all produced "in the greatest abundance." He listed grapes, oranges, pears, apricots, peaches, apples, almonds, English walnuts, cherries, figs, quinces, and plums. Writers of the same period comment upon the extraordinary yields of vegetables. The gold rush intensified the need for fresh vegetables and fruit to supply the thousands who were daily pouring into the state. Many of the early miners found farming more profitable than mining, and some of these forty-niners began to raise garden truck. A few individuals made small fortunes supplying the inhabitants of San Francisco and Sacramento. One 150-acre garden plot near San Jose netted its owner

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<sup>59</sup>Adams, op. cit., 36; Cleland and Hardy, op. cit., 75.



Harvest in California. Thirty-two horses are required to pull this combined harvester and thrasher in a scene of early but large-scale farming operations in the Imperial Valley.

Courtesy, National Archives

\$175,000 the first year. Others in the field were more or less fortunate in the first few years, depending on the circumstances prevailing in their particular areas.<sup>60</sup>

William Wolfskill, a former trapper, in 1841 planted the first privately owned orange grove in California. He transplanted trees from the abandoned gardens of San Gabriel Mission to a plot where the Los Angeles Union Railroad station now stands, and eventually expanded his grove to about 2,500 trees. A neighbor, Matthew Keller, imported orange trees from Hawaii and planted a grove near that of Wolfskill. Before the coming of the railroad, the citrus industry grew slowly because the growers had to sell on the local market. There were about 45,000 trees in Southern California and perhaps 5,000 in scattered spots in the north when the first transcontinental line was completed.<sup>61</sup> A great stimulus was given to the citrus industry by the introduction of the Washington navel or seedless orange. The U. S. Department of Agriculture in 1871 sent three budded trees from Bahia, Brazil to Luther C. Tibbets, farmer at Riverside. When the trees began to bear, his wife Eliza took over the marketing and advertising of the new fruit. The number of trees was rapidly increased by graftings from parent trees so that by 1886 shipments of navel oranges from California amounted to 2,250 carloads.<sup>62</sup>

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<sup>60</sup> Caughey, op. cit., 312; Robert West Howard, Two Billion Acre Farm (New York, 1945), 145.

<sup>61</sup> Caughey, op. cit., 313; Howard, op. cit., 150-151; American Heritage, IX (August, 1958), 14-15; Adams, op. cit., 39-40.

<sup>62</sup> Howard, op. cit., 151-152; Cleland and Hardy, op. cit., 101.

Wine production had an important growth in the period after the gold rush. Most of the old Spanish missions had vineyards and produced wine, but this fact meant little to American farmers. Agoston Haraszthy, a Hungarian refugee and former vineyardist, came to California in 1851 and became more interested in the soil and climate than in the gold fields. He imported several types of European grape vines and found that they produced fruit of excellent quality. At first he experimented with raisin grapes, but his most popular importation was the Zinfandel red wine grape which grew well in Napa and Sonoma counties. By 1868 California vineyards were producing about eleven thousand tons of grapes.<sup>63</sup> Wine production fell largely into the hands of immigrants, especially the Italians who were beginning to come into the state.<sup>64</sup> To the typical American frontier farmer the wine industry at first seemed strange and somewhat exotic. The pioneer of commercial nut raising was also a foreigner, a Frenchman named Felix Gillet, who experimented successfully with English walnuts, filberts, and almonds on a small farm near Nevada City.<sup>65</sup> Great diversification in agriculture took place in the seventies and eighties as the population increased.

With the coming of the railroads to the Far West the character of the farmer frontier changed, or the frontier disappeared entirely. The Central Pacific and Union Pacific railroads completed the first trans-continental line in 1869. The Southern Pacific built a road down the

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<sup>63</sup>Howard, op. cit., 146; Adams, op. cit., 36-39; Cleland and Hardy, op. cit., 84-85.

<sup>64</sup>There were approximately 125,000 grape vines in California in 1859. By 1900 there were 120,000,000, and the state was producing 80 percent of United States wine. Cleland and Hardy, op. cit., 82-84. The wine production of 1870 was about 2,000,000 gallons. Adams, loc. cit.

<sup>65</sup>Howard, op. cit., 147.

San Joaquin Valley in California, connecting Los Angeles with the north, and then extended its lines to New Orleans by 1882. The Atchison, Topeka, and Santa Fe Railroad reached San Bernardino in 1885 and Los Angeles in 1887.

Competitive rates and cheap railroad lands caused a great boom in Southern California during the late 1880's. Extensive advertising campaigns by railroad companies and local organizations brought thousands of new settlers. The time had come when the "farmers' frontier" was being advanced by high pressure salesmanship. Railroads in 1882 owned almost ten and a half million acres of California land and were desirous of capitalizing on it. The boom in Southern California declined in 1889 and the early nineties at a time when there were great rushes for farm lands in Oklahoma. However, the agricultural development of the Central Valley continued, and many new areas were brought under cultivation by irrigation south of the Tehachapis.<sup>66</sup>

#### FARMING FOLLOWED THE MINERS

Following the California gold rush, a series of remarkable gold and silver discoveries in the mountain regions of the Far West moved the mining frontier eastward to the fringes of the Mississippi Valley. On the north it reached Canada and on the south the Gila Valley in Arizona. Within the decade 1855 to 1865, rushes of miners and prospectors transformed the economic and political aspect of the entire area. Farms and ranches developed in the vicinity of mines wherever water and soil permitted. The California pattern was repeated on a smaller scale many times, even to the detail that some pioneer farming had existed in some regions before the mining rushes.

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<sup>66</sup>  
Caughey, op. cit., 467-475.

Discovery of gold near Ft. Colville in Washington Territory attracted many prospectors to the region west of the Cascades. A strike in Nevada in 1858 caused a rush in 1859 and the opening of the great Comstock Lode. Nevada Territory was created in 1861 and admitted as a state in 1863. The Civil War speeded congressional action. Mining discoveries in Colorado in 1858 and 1859 quickly won for it territorial status. Strikes were made in the Snake River Valley and adjacent regions in 1860 and succeeding years and Idaho became a territory in 1863. Montana followed the same pattern in 1864. In all these areas the mines brought the people, but, after the initial excitement died, farmers and ranchers remained to form a stable population.<sup>67</sup>

For many years Utah remained a sort of agricultural island surrounded by mining-created territories and states. Taking advantage of new markets, the Mormons were effective in extending their own farmer frontiers into mining regions. Their first experience with gold seekers had occurred during the California gold rush when thousands had passed through Salt Lake City. The Mormons as traders and suppliers made money, and demand for foods stimulated agriculture. On the other hand, they had lost their isolation.<sup>68</sup>

Although some Mormons participated in the gold rush, Brigham Young was able to continue his colonizing plans. Through the activities of Mormon missionaries, thousands of converts in Europe and the eastern part of the United States were persuaded to come to Utah. Young devised a scheme

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<sup>67</sup>General accounts of the "mining frontier" are found in Billington, Westward Expansion, 615-632; id., The Far Western Frontier, 243-268; Hafen and Rister, Western America, 437-454.

<sup>68</sup>Creer, The Founding of an Empire, 357-361.

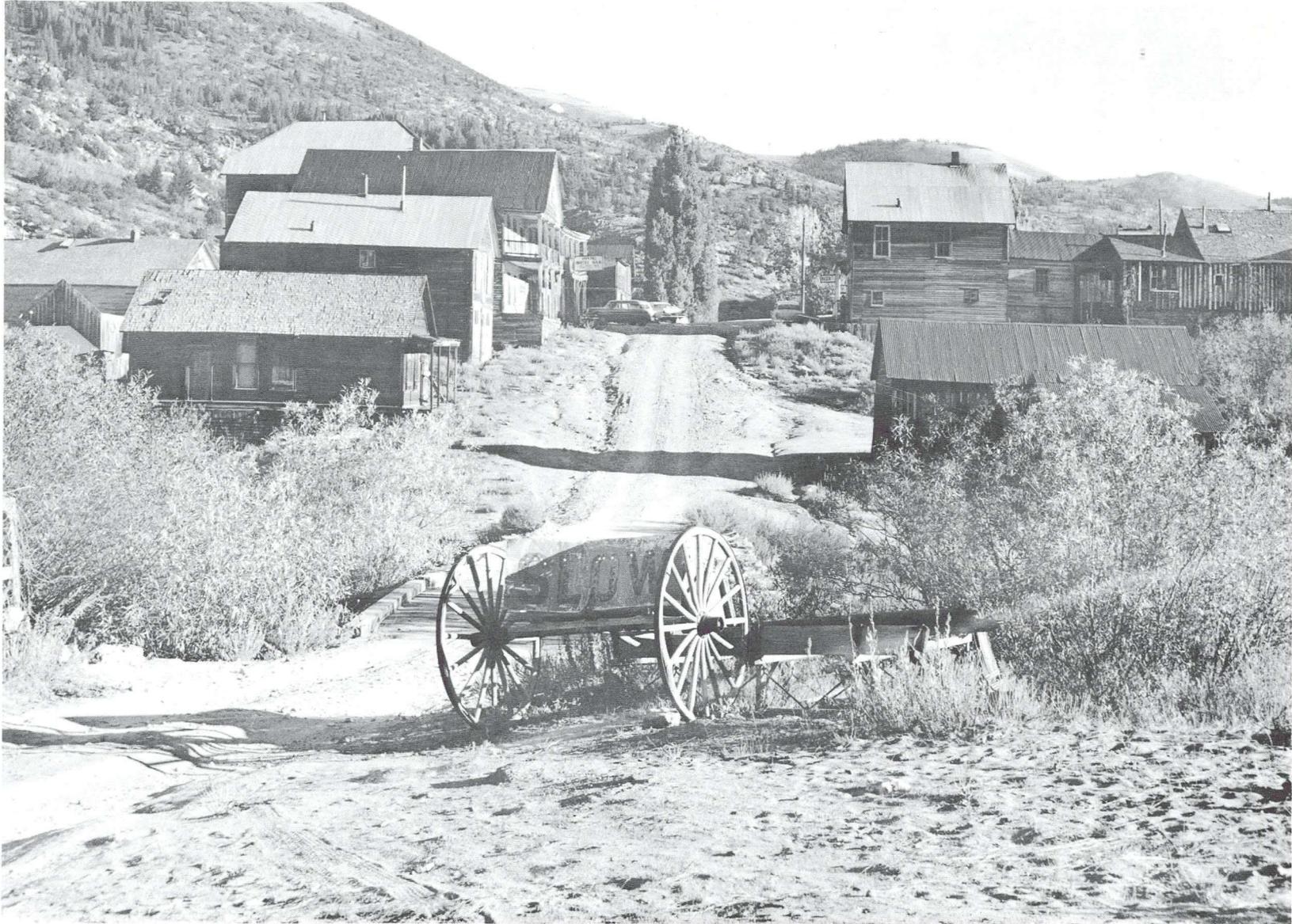
of founding a line of agricultural colonies along a route which would extend to San Diego in California. He established Fort Utah on Utah Lake in 1849, and Provo and Lehi the next year. In 1851 Parowan and Cedar City were colonized. Later that year he sent three hundred colonists to southern California where they purchased Rancho del Bernardino from the Lugo family and founded San Bernardino. Other colonies founded were Genoa in the Carson Valley (1849), Fort Limhi on the Salmon River in Idaho (1855), the Green River settlements in Wyoming (1853-55), Elk Mountain Mission, and Las Vegas on the Old Spanish Trail (1855-56). By 1856, more than 22,000 Mormons were established over a wide area in well organized agricultural colonies.<sup>69</sup>

Congress created a territorial government for Utah in 1850, but friction developed between territorial officials and the Mormons. Furthermore, hostility on the part of groups en route to California led to violence, of which the Mountain Meadow Massacre in 1857 was the most sensational. Federal troops were sent into Utah under the command of Albert Sidney Johnson. Brigham Young prepared to resist and ordered colonists in the outlying settlements to return to Salt Lake City. Consequently, most of the new establishments were abandoned, and the more distant were never reoccupied although an amicable conclusion of "Johnson's War" was effected. Despite this setback, the Mormons prospered and expanded their settlements again into adjacent territories. Their success with irrigation was notable, and in Utah itself a very extensive system of canals and ditches had been built before the end of the Civil War period.<sup>70</sup>

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<sup>69</sup>Ibid., 361-367.

<sup>70</sup>Hafen and Rister, op. cit., 379; Creer, op. cit., 342-345. Charles D. Posten reported that by 1866 there were 134,000 acres of irrigated land producing crops of \$4,500,000 estimated value. "Irrigation," U. S. Department of Agriculture, Annual Report, 1867, p. 195.



Silver City. The mining towns scattered throughout the mountain regions of the West contributed to the advance of the farming frontier. Populations of such boomtowns as Silver City, Idaho, shown in the photograph, required considerable food supplies and farmers were soon attracted.

Discovery of gold on the South Platte in 1858 led to the Colorado fifty-niner rush and the founding of Denver, Aurora, Boulder, and other mining towns. Agriculture developed rapidly, but irrigation was essential. Prior to the gold excitement, a few New Mexican farmers had settled in the southern Colorado area and were subsistence farming by irrigation in the valleys of the Culebra and San Luis. Americans who began farming did so because profits were more certain than in mining.<sup>71</sup>

Although Colorado's climate is dry, the region where mining and farming first developed had many streams. In fact, this middle area is located near the divides which separate the drainage systems of the Mississippi, Colorado, and Rio Grande. Early farms were located on the banks of streams, and in 1861 the Territorial Legislature passed a law giving to each claim free use of the water on its margin. The law provided that no water should be wasted, and that any arguments over water rights should be adjudicated in court.<sup>72</sup>

Group settlements or colonies were important in Colorado's agricultural development. The Union Colony, endorsed by Horace Greeley, was the best known, but there were many others such as Saint Louis and Western Colony, Chicago Colony, the German Colony, and the Conejos County Mormon Colony.

Expense of constructing irrigation systems was a strong argument in favor of cooperative ventures. The first major irrigation canals were begun in Weld County at Greeley and Evans. The Union Colony constructed a canal at Greeley to irrigate 12,000 acres of owned land and 60,000 acres of government land plus 50,000 acres of railroad lands. In 1877 an English firm,

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<sup>71</sup>Steinel, History of Agriculture in Colorado, 26-27, 53-54, 63-67; Hafen, Colorado, 96.

<sup>72</sup>Steinel, op. cit., 221.

the Colorado Mortgage and Investment Company, constructed a large canal at Fort Collins. The Platte Land Company, another English organization, constructed ditches along the Platte River. Weld and Larimer built a dam on the Cache-la-Poudre for purposes of irrigation. Apparently foreign capital was welcome and foreign control was not, because these companies and the farmers to whom they supplied water were usually at odds, but that did not stop Colorado's growth.<sup>73</sup>

The eastern portion of Colorado lies in the High Plains area, and the farmer frontier there had a history in common with other Plains regions including grasshopper plagues, mortgages, recurring droughts, and periods of "boom and bust." Here, as elsewhere on the Plains, cruel evolution was the rule. The tough and intelligent farmers survived, made adjustments to harsh conditions, learned to live with their troubles, and sometimes made a profit.<sup>74</sup>

When the Nevada rush began in 1859 with rich discoveries of gold and silver ore on Davidson Mountain and the opening of the Comstock Lode, there was very little farming in the whole area. About six years before the mining boom, Henry Dangberg had driven a herd of cattle to Carson Valley from the East to become Nevada's first rancher. Primarily a cattleman, he did some subsidiary farming and was well-established before the discovery of gold and silver mines. However, the Carson Valley was unable to supply the needs of miners during the first period of the mining boom and foods were

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<sup>73</sup> Ibid., 202-205, 383-401.

<sup>74</sup> Robert G. Dunbar, "Agricultural Adjustments in Eastern Colorado in the Eighteen-Nineties," Agricultural History, XVIII (January, 1944), 41-52.

freighted in by wagons from Utah and California. As a result, prices were high and furnished the necessary incentive to farmers. By means of irrigation farming slowly developed.<sup>75</sup>

The Overland Stage Company, faced by increased traffic, initiated the first farms in Ruby Valley in 1865 in order to supply the western Utah stage stations. The operation was on a rather large scale, and employed about a hundred men, thirty plows, and ninety yoke of oxen. Crops grown consisted of barley, oats, turnips, potatoes, beets, and carrots. When mining developed at Eureka, Hamilton, Austin, and Pinoche, farming was soon undertaken along the closest streams at places where irrigation was possible. To the end of the century, mines and mining towns were almost the only markets for Nevada farm products.<sup>76</sup>

The Idaho gold rush occurred after a group of miners in 1860 made rich discoveries on Clearwater River, a tributary of the Snake. The whole Idaho region proved to be amazingly rich in gold and silver. By 1862, twenty thousand miners, according to estimates, were in the Clearwater and Salmon valleys. There were also rushes to the Boise and Owyhee Rivers. The mining boom was responsible for considerable agricultural development. In the Clearwater Valley some beginnings had been made prior to the mining. Spalding's mission of Lapwai was established there in 1836, and four years later William Craig, a mountain man, arrived in the vicinity. He became the first permanent settler, located a claim in 1846, and engaged in farming. A Mormon farm community founded in 1854 was abandoned, but another group successfully established a settlement at Franklin in 1860. From that time,

<sup>75</sup>Boyd Moore, Nevadans and Nevada (San Francisco, 1950), 204; Hubert Howe Bancroft, History of Nevada, Colorado, and Wyoming (San Francisco, 1889), 65-91; Thomas Wren, ed., A History of the State of Nevada (New York, 1904), 359-360.

<sup>76</sup>Moore, op. cit., 205.

Mormon farmers with others moved in considerable numbers to southern and eastern Idaho, the areas best suited to agriculture. Water from the Snake and Boise Rivers and their tributaries was used for irrigation. Because of the moderate climate and long growing season, crops quickly became diversified. Cereals, fruits, vegetables, and the famous Idaho potatoes all showed high yields and excellent quality. Since Idaho farming exists by irrigation, the Carey Act was of great importance in increasing water availability. By 1900 Idaho had more land under irrigation in proportion to the population than any other state.<sup>77</sup>

There was some farming in the Montana region before the discovery of gold. The first agriculture was undertaken in 1842 by the Jesuits at St. Mary's Mission in the Bitterroot Valley at the present town of Stevensville. The Jesuits were successful in their efforts and within a short time were selling a surplus to trading posts along the Missouri. Later, the Jesuits sold their mission to Major John Owen and moved their headquarters to St. Ignatius, Montana, establishing a mission there about 1850. This mission, with its adjacent farming lands, is still in existence. Major Owen cultivated the land purchased from the Jesuits and supplied the Walla Walla bound wagons that passed along the Mullan Road. Owen happened to be located on the main road to the gold mines of Idaho during the early sixties, and this fact further increased the demand for his produce so that he became fairly wealthy. A settlement grew up around his farm, and was named Fort Owen, for its most important citizen.<sup>78</sup>

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<sup>77</sup>Hiram T. French, History of Idaho (3 vols.; New York, 1914), I, passim. Chapters 16-20 contain a good account of early Idaho agriculture.

<sup>78</sup>Harold E. Briggs, Frontiers of the Northwest - A History of the Upper Missouri Valley (New York, 1940), 496-507.



Soaking the Land. Water is being turned into the fields in this early view of irrigation farming in the Imperial Valley of California.

A gold discovery in 1862 resulted in the founding of a camp named Bannock City, and in the following year Montana's mining boom began. There was also a boom in farming. Gallatin Valley, adjacent to the present city of Bozeman, was the first agricultural area developed extensively. With fertile soil and frost-free growing season it was probably the richest farming area in Montana and supplied many mining camps. Other important farming areas were the Prickly Pear Valley surrounding Helena, and the valleys of the Madison and Jefferson Rivers. All these districts were dependent upon irrigation. In later times dry farming was practiced in some regions in the eastern part of Montana. A decline in placer mining in the seventies resulted in falling food prices and some curtailment of farming. In general, stock raising was better suited to the area and soon expanded to attain first place in the states' agricultural economy.<sup>79</sup>

Arizona had a brief gold rush in the Gila Valley in 1858 and a more important one in 1862 when new discoveries were made on the Colorado. Here, as elsewhere, mining influenced agriculture. The United States had acquired the territory in 1848 by the Treaty of Guadalupe Hidalgo, but American farmers were slow in settling it because of the dryness of the climate and the hostility of the Apache Indians. Before the Civil War period, the most noteworthy American farmer was Peter Kitchen who took up a claim in 1854 on Potrero Creek about seven miles north of Nogales. Employing Opata Indians as laborers, he eventually had a thousand acres under cultivation. He raised hogs in addition to cattle, and his ham and bacon became famous for their quality. Surviving Apache incursions, his ranch was yielding excellent

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<sup>79</sup>Ibid.

profits by the early seventies.<sup>80</sup>

Discovery of gold in northwestern Arizona in 1862 led to a mining rush which brought a few farmers in its wake. The most active colonizers were Mormons who founded many agricultural communities beginning with Littlefield in 1864 and Fredonia in 1865. The first Mormon settlements were made in the region adjacent to Utah, but in the 1870's and 1880's they established others in the valleys of the Gila, Verde, Salt, and Tonto Rivers.<sup>81</sup>

The first extensive irrigation system in Arizona was initiated by John W. Swilling. With several associates in 1867, he began the construction of the Salt River Valley Canal, called locally "Swilling's ditch." Within a year the canal was extended several miles, and a thriving agricultural community developed which was named Phoenix.<sup>82</sup> Ten miles east of Phoenix, Tempe was founded in 1870, and Mormon settlers founded Mesa in 1878. In the valleys of the Gila and Salt Rivers there were approximately 500,000 acres of fertile land, but the task of irrigation was so great that private enterprise accomplished it slowly. It is estimated that 50,000 acres were irrigated by 1885, and that amount had been increased to 70,000 acres by 1890. Many small irrigation districts were formed to utilize the waters of the southern rivers, and by the end of the century probably 180,000 acres were under cultivation. Only with the advent of government-sponsored irrigation projects, did farming expand to its normal limits. Until that

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<sup>80</sup> Frank C. Lockwood, Pioneer Days in Arizona, from the Spanish Occupation to Statehood (New York, 1932), 129-131, 228, 331; Rufus K. Wyllys, Arizona, the History of a Frontier State (Phoenix, 1950), 123.

<sup>81</sup> Wyllys, op. cit., 217-218, 221-223, 227; Hubert H. Bancroft, History of Arizona and New Mexico (San Francisco, 1889), 594-598.

<sup>82</sup> Lockwood, op. cit., 338-339; Wyllys, op. cit., 233-234.

time, cattle and sheep ranching dominated the economy of Arizona.<sup>83</sup>

#### THE FARMER'S FRONTIER OF THE GREAT PLAINS

While agricultural frontiers expanded to the Pacific Coast, the Intermountain Basin, and the Rocky Mountain regions, the area immediately west of the ninety-fifth meridian remained unsettled. The harsh natural environment of the Plains and the presence of hostile Indian tribes were responsible for this phenomenon. Eventually the Indians were eradicated by military force, but natural forces never ceased to harass the settler. An Illinois farmer who moved to the Plains had to make a greater adjustment than his neighbor who may have gone to Oregon or Northern California.

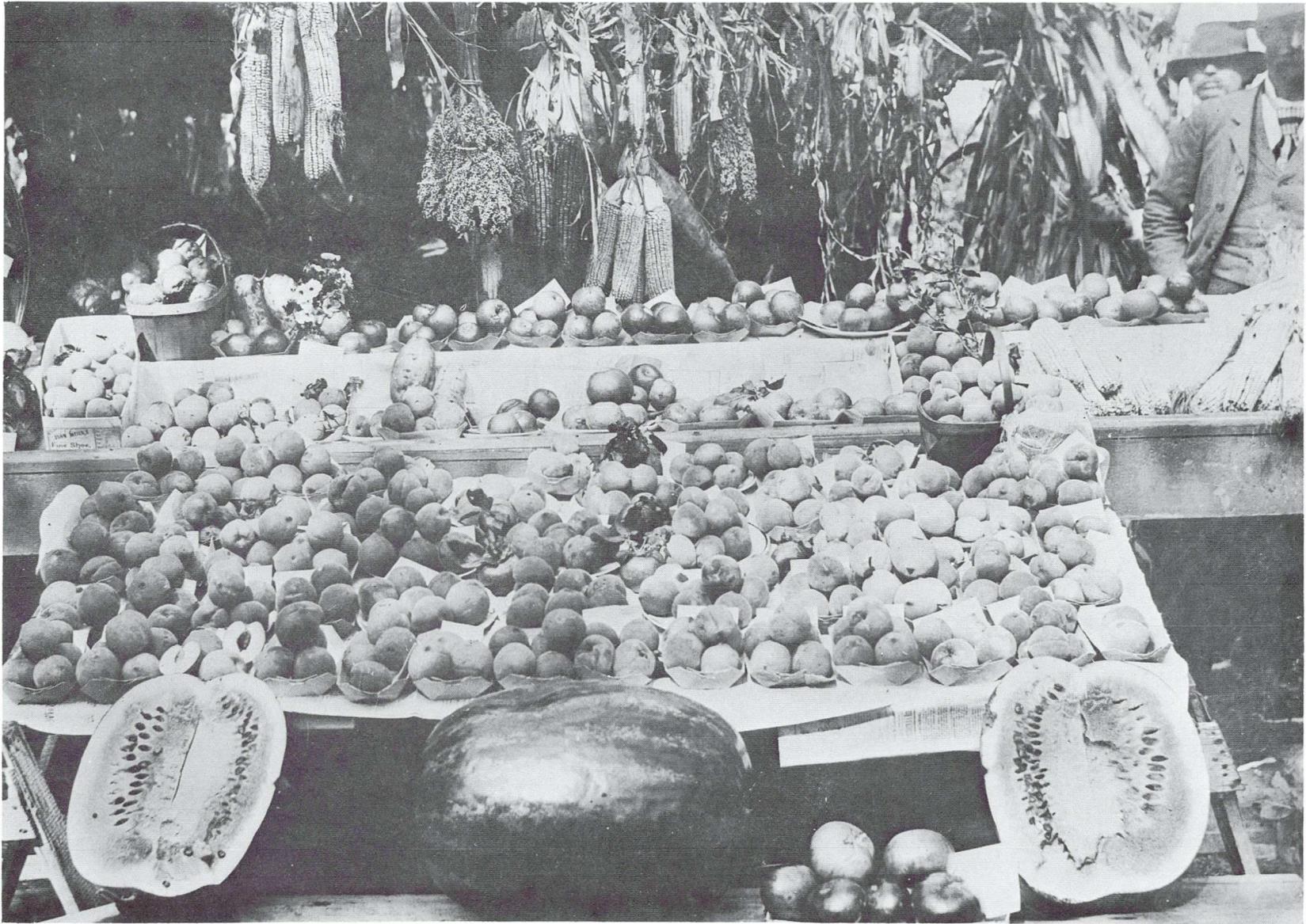
Land beyond the ninety-fifth meridian was an immense treeless prairie with only very narrow fringes of trees along relatively few streams. The inadequate timber supply was quickly cut and the settler was forced to adapt his habitation to the new environment. With a certain amount of inventive genius he cut the tough prairie grass sod into slabs and built the walls of his house much in the manner of the adobe brick construction used by Mexicans in the Southwest. Barns and other essential farm structures were made in like manner.<sup>84</sup> Everett Dick, historian of the area, asserted that "in 1876, more than nine-tenths of the residents of eastern Nebraska had at one time or another lived in houses constructed of earth." Sod was even used occasionally for building fences or walls.<sup>85</sup>

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<sup>83</sup>Wyllys, op. cit., 260-262.

<sup>84</sup>Everett N. Dick, "Going Beyond the Ninety-Fifth Meridian," Agricultural History, XVII (January, 1943), 106.

<sup>85</sup>Everett N. Dick, The Sod-House Frontier (New York, 1937), 81-82.



Before the Dust Storms. Fruit and vegetables are being displayed by the Oklahoma County Horticultural Society at monthly meeting, 1890's.

Courtesy, National Archives

It was discovered that the thorny Osage-orange (Maclura pomifera) and black locust were highly drought resistant and that hedges of these plants made reasonably stock-proof fences. Prior to the development of barbed wire in the latter half of the 1870's, millions of Osage-orange trees were planted. Some writers even assert that the thorns of the Osage-orange supplied the idea for the barbed wire fence.<sup>86</sup>

The majority of farmers who moved into the Great Plains region faced the difficult problem of water supply. Only a lucky few had farms extending to the banks of streams and for these there was danger of spring floods. Water was hauled in barrels to outlying farms, collected in ponds or in cisterns. Impure ground water caused epidemics of "prairie fever" or typhoid. A good well was a farmer's salvation, but the cost and danger of digging a well by hand were great. On many farms at considerable distance from a stream, water might not be found before a depth of three hundred feet. Well-drilling machinery was not in common use until the 1880's.<sup>87</sup>

The climate of the Plains was inhospitable, ranging from blizzards in winter to searing heat in summer. Farm animals often froze in winter or died of thirst and heat in summer. Recurring periods of drought turned much of the region into a desert. Nature added one more recurring disaster to the prairie farmer's lot--grasshopper plagues. The worst incursion was in 1874 when the whole area from the Dakotas to Texas was devastated. These insects

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<sup>86</sup> Jacob Haish, one of the early experimenters with barbed wire, stated that he got the idea from the thorns of the Osage-orange. Jacob Glidden of DeKalb, Illinois, invented the two-strand wire and began manufacture in 1874. Walter Prescott Webb, "The Great Plains," The Trans-Mississippi West (Boulder, Colorado, 1930), 327-329.

<sup>87</sup> Walter Prescott Webb, The Great Plains (New York, 1931), 321-337.

ate everything and, in the words of one farmer, left nothing but the mortgage.<sup>88</sup>

A great majority of Great Plains pioneers entered the region with the courage of complete ignorance. They tried to plant corn and it failed. Wheat became the great staple crop of the whole area, but there were crop failures in dry years. Barley, sorghum, and millet were tried, and a system of cultivation known as "dry farming" was evolved just at the end of the century. This technique, although not actually farming without water, consisted in conserving soil moisture by careful cultivation. Usually a field was cultivated continuously, but only planted in alternate years. By keeping a continuous dust mulch over the surface, a two years' supply of moisture could be stored in the ground, provided a wind storm did not blow away the top soil. Dry farming required extensive tracts of land and efficient farm machinery.<sup>89</sup>

From the beginnings of Plains farming improved machinery was necessary. Without improved plows the sod of the prairies could not be broken. James Oliver supplied the need with his "chilled-iron" plow developed in 1868. Within a decade more than 175,000 Oliver plows were in use with production amounting to 60,000 a year.<sup>90</sup> The next significant innovation was the breaker plow. It differed from the eastern plow in that it was

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<sup>88</sup>Billington, Westward Expansion, 710; John T. Schlebecker, "Grasshoppers in America," Agricultural History, XXVII (July, 1953), 85-93.

<sup>89</sup>H. W. Campbell, Campbell's 1902 Soil Culture Manual (Holdrege, Nebraska, 1902), describes the methods of one of dry farming's first proponents; Dick, "Going Beyond the Ninety-fifth Meridian," Agricultural History, XVII, 110; William McDonald, Dry-Farming: Its Principles and Practice (New York, 1911), 6.

<sup>90</sup>Leo Rogin, The Introduction of Farm Machinery in Its Relation to the Productivity of Labor in the Agriculture of the United States (Berkeley, California, 1931), 36.



Bachelor Homesteader. A lonely bachelor, before his trim, board and batten cabin, muses on the joy of life in the West.

Courtesy, Idaho Historical Society

required to turn over the sod in rather shallow but very wide furrows. More power was required for the breaker plow and oxen were commonly used. Normally two yoke drew a plow, but often three or four were used. "The advent of the steel breakers, about the time that the steel plow became popular, was a most important aid in agricultural occupation of the prairie."<sup>91</sup> However, improvements were made in every type of farm machinery.

Cyrus H. McCormick patented his reaper in 1834 and, although the first machines were crude affairs, they were improved gradually and became an essential adjunct to Plains grain farming. Lord Robert Russell, who visited the prairie country in 1853, reported that "the cereals are chiefly cut by machinery."<sup>92</sup> A McCormick agent in 1858 wrote that "most every farmer west of Dubuque is supplied and has bought a machine of some kind."<sup>93</sup> By the Civil War period the cutting of wheat by hand had ceased on all large farms. Labor shortage and high prices during the Civil War caused a great demand for mowing and reaping machines. Approximately a quarter million reaping machines had been manufactured in the United States by 1864. The wire binder was first used in 1873 and by 1880 Deering had put 3,000 twine binders on the market.<sup>94</sup>

The agricultural development of the northern plains was based to a great extent upon the work of scientists and inventors who perfected a new process of milling. The area was unsuited to the growing of soft winter wheat previously grown in the United States. Hard-kerneled wheat known as "Turkey Red

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<sup>91</sup>Ibid., 45, 47.

<sup>92</sup>Ibid., 79.

<sup>93</sup>Ibid., 80.

<sup>94</sup>Ibid., 93, 110-119.

imported from Crimea grew well in Kansas and Nebraska, while other varieties of spring wheat from Northern Europe produced excellent yields in Minnesota, Dakota, and Montana. Old methods of milling were not effective with spring wheat, but inventors came to the rescue of the growers. The use of corrugated, chilled-iron rollers instead of millstones solved the problem. By 1881 western mills were beginning to produce fine grades of spring wheat flour by the new process. Along with the revolution in wheat growing and milling went improved methods of handling grain. Grain elevators were constructed by railroad tracks where grain could be stored for shipment and loaded into cars mechanically.<sup>95</sup>

Mechanization of farming on the Plains proceeded with great speed after the Civil War. Improved agricultural machinery enabled a farmer to increase acreage and production of grain with less use of manpower. Extensive use of machines was common in California's great central valley and later in the "inland empire" of Washington and Oregon as well as upon the Great Plains, but with a difference. The Plains farmer took a greater risk of becoming a slave to his machines or rather to the mortgage company that lent him the money to buy them. Mechanization was a necessity, but often it failed to raise the standard of living.

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<sup>95</sup> Edward Van Dyke Robinson, Early Economic Conditions and the Development of Agriculture in Minnesota (Minneapolis, 1951), 76-78; Billington, op. cit., 706-708.

## SETTLING THE GREAT PLAINS

A quarter of a billion acres of new land was placed under cultivation in the United States between 1890 and 1900, most of it in the Great Plains region. Beginning after the Civil War there was a series of migrations to Kansas, Nebraska, the Dakotas, Montana, Colorado, and finally Oklahoma. The flow of people to the West was hastened by a number of favorable circumstances which included prospects of free land under the Homestead Act, building of railroads, defeat and removal of Plains Indians, and a period of adequate rainfall.<sup>96</sup>

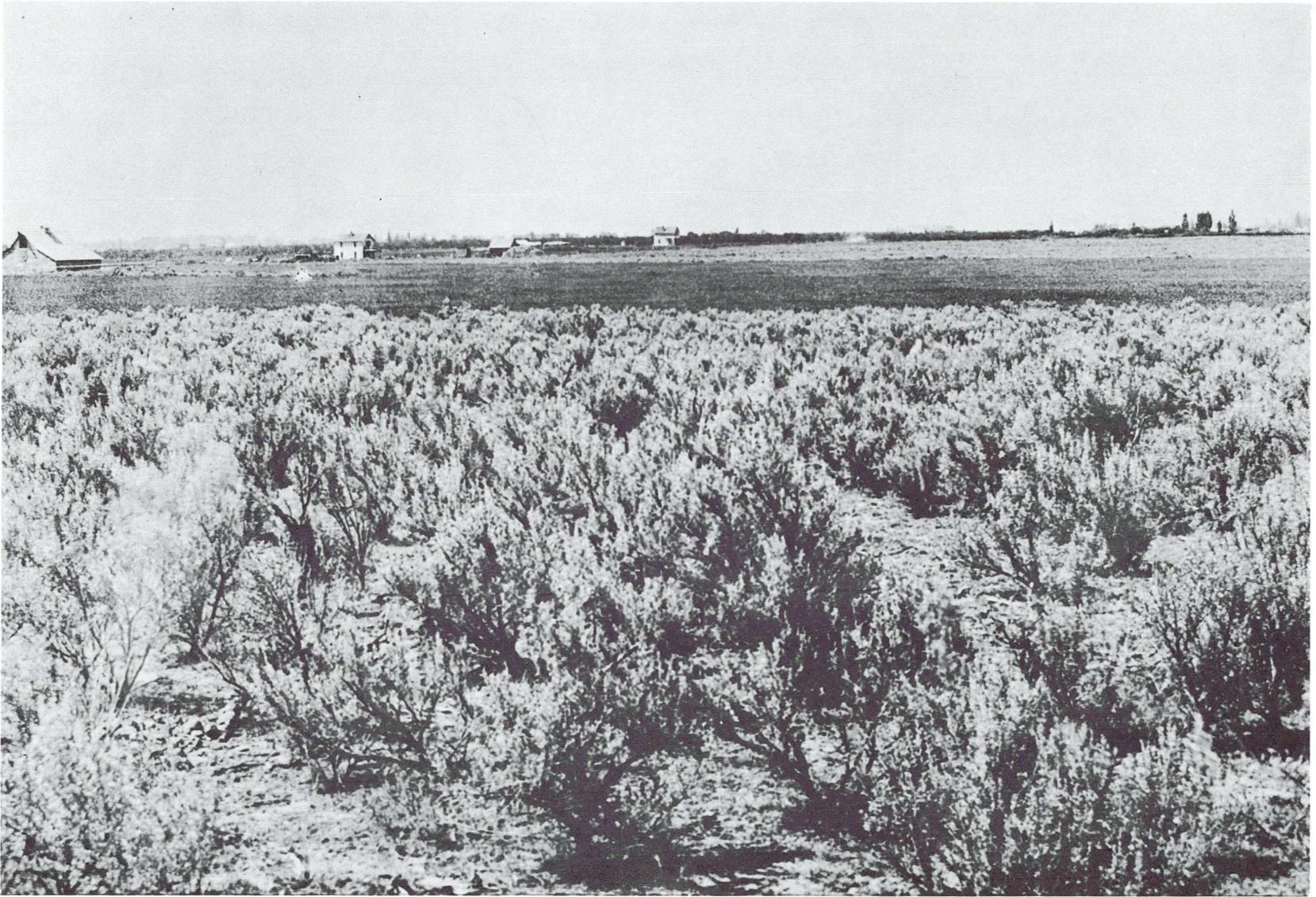
Cattlemen moved into the Plains first, but the farmers soon followed. Much of the area was suited only for grazing but, in a cycle of wet years, this fact was unknown to hordes of uninformed immigrants. In their bitter battle with cattlemen for lands and water the "nesters" won, only to discover that hostile natural forces were more difficult to overcome. Drought periodically transformed the Plains into the "Great American Desert," or grasshoppers swept them clean of vegetation. The grasshopper plague of 1874 temporarily reversed the flow of settlers. Good years in the early eighties brought a resumption of frontier advance.<sup>97</sup>

The most powerful factors in western colonization were land grant railroads. Recipients of millions of acres of government land, the railroad companies set up "land departments" and "bureaus of immigration." The former arranged prices, sales, and credit while the latter brought in the customers.

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<sup>96</sup> Billington, Westward Expansion, 703.

<sup>97</sup> Everett Dick, "Going Beyond the Ninety-Fifth Meridian," Agricultural History, XVII (January, 1943), 105; Fred A. Shannon, The Farmer's Last Frontier, 152-153.



Before and After. In the foreground is a typical example of sagebrush desert; in the background farmland reclaimed through irrigation.

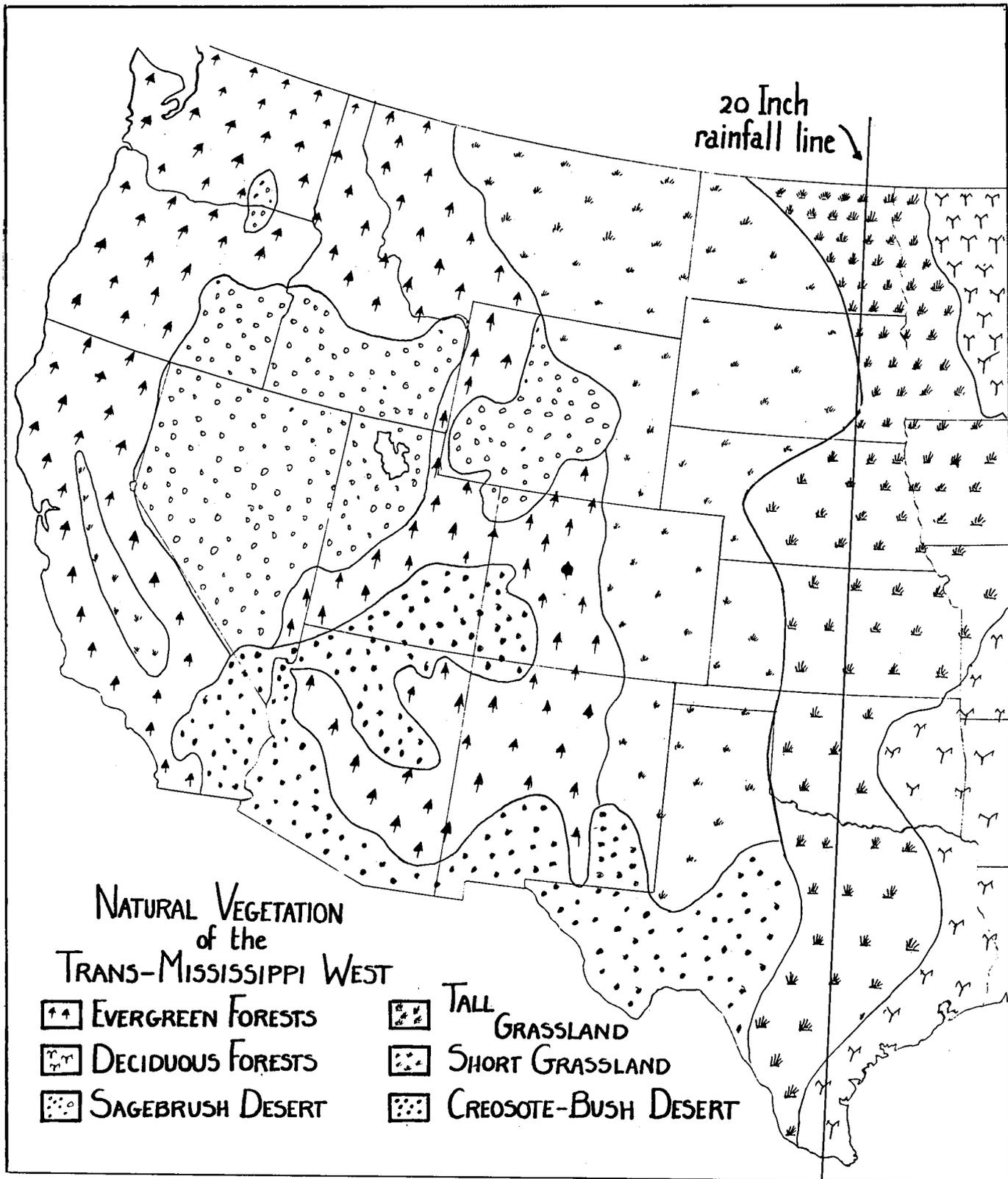
Courtesy, Idaho Historical Society

Literally millions were spent on advertising, much of it not very closely related to the truth. In the Great Plains area and in California the frontier farmers were brought in and sold farms by high pressure methods. In many places it might be more accurate to classify the new developments as the frontier of the "promoter and salesman" rather than as the "farmer frontier." Active among western promoters were speculators and subdividers who managed to acquire large tracts of the best land, thus defeating the intent of the Homestead Act. The percentage of farmers who took up land under the Homestead Act was small. From 1862 to 1900 "possibly 400,000 families got free land from the government and kept it for themselves," and this figure is for the whole United States and not only the Great Plains.<sup>98</sup>

The chief sources of immigration during the 1870's were adjacent states along the Mississippi River whose populations were drained away into the Plains to the extent of a million or more. In a decade Kansas gained 347,000, Nebraska 240,000, and other western regions in proportion. Another source of immigration was Europe. Irish laborers came west as construction workers on the railroads and remained to try their hands at farming. European immigration was actively promoted by railroads, steamship companies, and by western states and territories themselves, all of which maintained immigration bureaus on the east coast and in Europe. From northern Europe came Germans, Dutch, Swedes, Norwegians, and Danes. The Minnesota and Dakota regions appealed especially to the Scandinavians of whom more than 10,000 came to

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<sup>98</sup> Shannon, op. cit., 55, 57-75.



the United States in 1865, lured largely by the promise of free land. In the peak year 1882 at least 105,000 arrived. The farmer frontier in some areas of the northern Plains was more European than American, even to the languages spoken.<sup>99</sup>

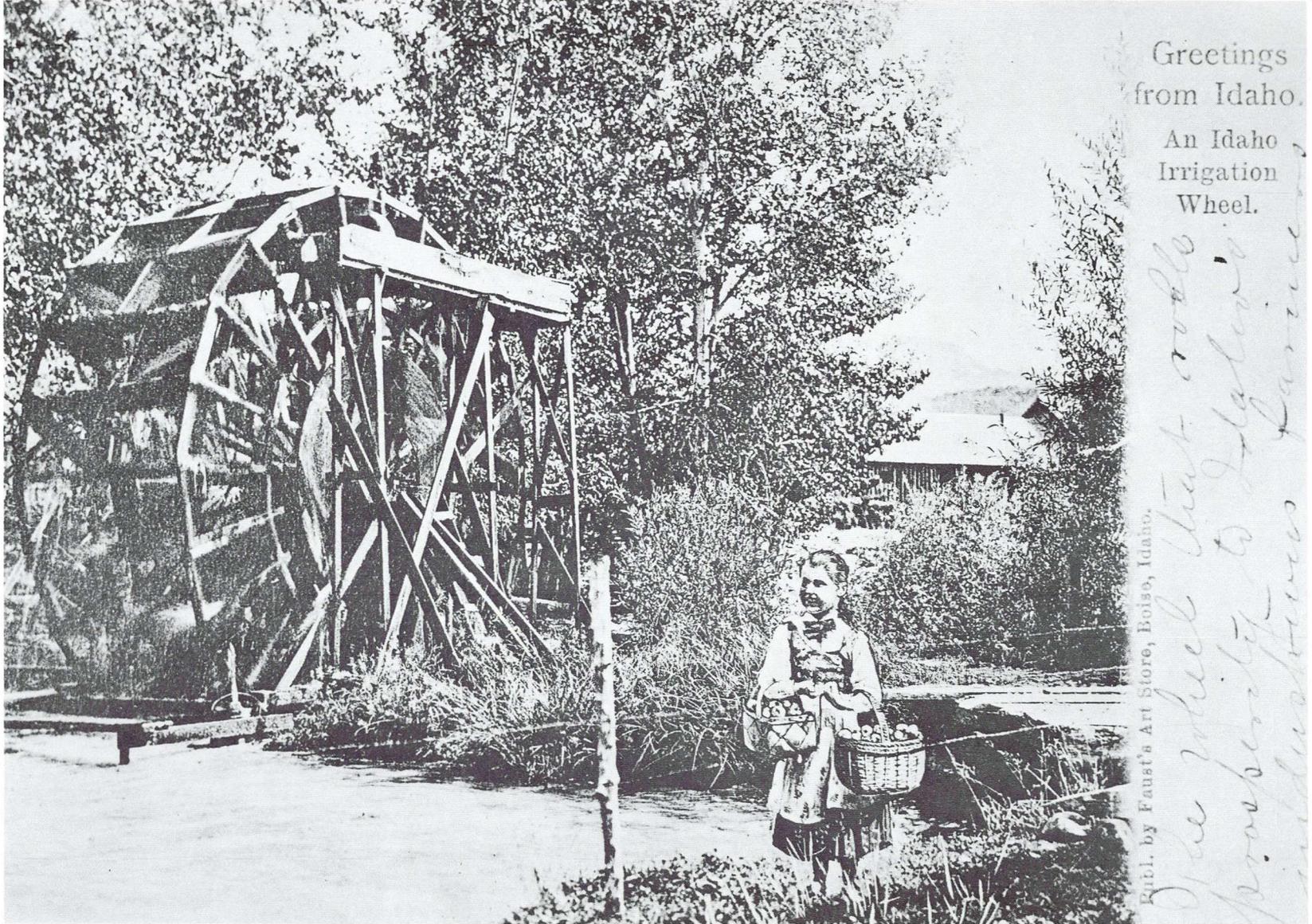
Life on the frontier was hard and financial risks great. Even when land was free the cost of equipment, stock, and fencing was great. Despite adverse conditions population grew rapidly. By 1880 Kansas had a population of 850,000, and Nebraska 450,000. Towns had developed, but the areas were still fundamentally rural. In the north, Dakota Territory was organized in 1861, but the first extensive migration there did not begin until 1868 when the Sioux Indians were forced to accept a reservation west of the Missouri. In the early 1870's several railroad lines reached the Dakotas, thereby stimulating the first boom. Although the panic of 1873 checked migration, it was only temporary.<sup>100</sup>

Discovery of gold in the Black Hills and the ensuing rush of 1875 stimulated the advance of the farmer frontier. Equally important was the spectacular work of Oliver Dalrymple in the mechanized production of wheat. The Panic of 1873 forced the Northern Pacific Railroad into bankruptcy. To capitalize on their railroad lands, Company officials decided to advertise its fertility. Dalrymple, a skilled wheat grower from Minnesota, was engaged to conduct the experiment. He was given eighteen sections of land in Red River Valley and adequate funds to buy machinery. His methods were quite similar to those used on California bonanza wheat ranches. Gangs of laborers

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<sup>99</sup> Ibid., 36, 45-50.

<sup>100</sup> Billington, op. cit., 713; Hafen and Rister, Western America, 557-561.



Greetings  
from Idaho.  
An Idaho  
Irrigation  
Wheel.

Sold by Faust's Art Store, Boise, Idaho.

*The wheel that rolls  
prosperity to Idaho's  
industrious farmers*

Romantic, But True. The caption of this early Idaho postcard, "The wheel that rolls prosperity to Idaho's industrious farmers," is an accurate description of the effect of irrigation on the arid West. The farmer's daughter, also shown, has played an intriguing role in American life.

and the best agricultural machinery were imported. His success was phenomenal. With extremely low production cost of about \$9.50 per acre, high yield, and a good price for wheat, his profits were over 100 percent. Within four years "bonanza wheat farms" covered most of the Red River Valley. The population of the Dakotas grew with great speed. In the year 1877, farmers homesteaded 213,000 acres, and in succeeding years homestead acreages increased until the peak year of 1884, when settlers filed claims on more than eleven million acres.<sup>101</sup>

Wyoming, a natural cattlemen's country, began to attract a few farmers after the coming of the Union Pacific in 1867. Some success was made in farming along the eastern border of the Big Horn Mountains where water could be diverted from streams for irrigation. Between 1880 and 1890, after the elimination of Indian dangers, considerable development took place with the construction of about 5,000 miles of ditches to irrigate approximately two million acres of land. Despite this work, the population of Wyoming grew slowly and cattle ranching remained more important than farming. A similar situation existed in eastern Montana.<sup>102</sup>

As population of the northern Plains region increased, farmers also moved into the Southern Plains. In Texas, the number of farms increased by approximately 113,000 during the decade of the 1870's. Between Kansas and Texas lay Indian Territory with millions of acres of good land assigned to twenty-two tribes. Pressure from prospective settlers, land speculators, and railroad companies eventually forced Congress to modify its Indian policy and

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<sup>101</sup>Shannon, op. cit., 154-161; Billington, op. cit., 715.

<sup>102</sup>Hafen and Rister, op. cit., 563-567.

open the country to settlement. Agitation began in 1874 and continued until 1885 when Congress authorized the Indian Office to extinguish claims to the Oklahoma District and the Cherokee Outlet, the unoccupied part of Indian Territory. So great was the pressure of would-be settlers that the government used the army to keep them out of the territory. Finally, the government compelled the Creeks and Seminoles to sell their lands in January, 1889 and Congress authorized the President to announce that, on April 22nd, the Oklahoma District would be opened to settlement under the Homestead Act.<sup>103</sup>

On the specified day probably the maddest rush in American frontier history occurred. Within a half day, 1,920,000 acres of the Oklahoma District had been homesteaded. Guthrie and Oklahoma City literally came into existence before nightfall. The amazing growth of population resulted in the creation of Oklahoma Territory in 1890. Gradually lands of other tribes were opened to settlement. A rush similar to that of 1889 occurred on September 16, 1893, when the Cherokee Outlet was thrown open to homesteading and 100,000 settlers entered the area in one day. By 1907 Oklahoma became a state with a half million inhabitants.<sup>104</sup>

The settlement of Oklahoma completed the advance of the farmer frontier into the Great Plains but its problems have continued to the present.

#### THE FRONTIER AND THE FARM PROBLEM

During the last third of the nineteenth century farmers in the United States contended with falling prices for their products and rising costs of machinery and supplies. In previous times the rural population had

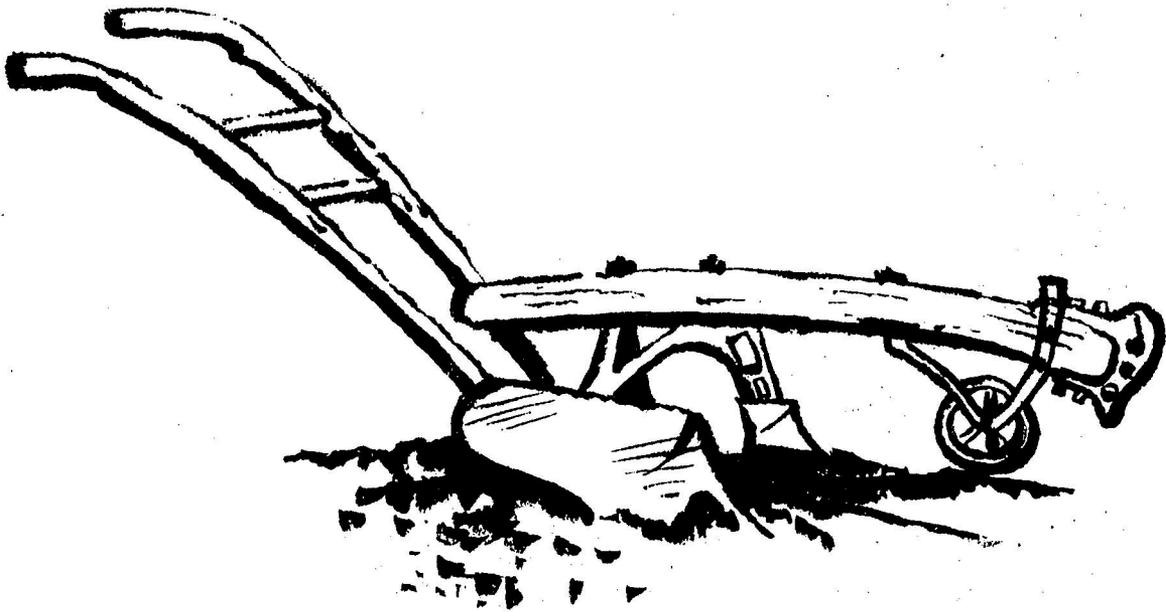
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<sup>103</sup>Edwin C. McReynolds, Oklahoma, A History of the Sooner State (Norman, Oklahoma, 1954), 281-289.

<sup>104</sup>Ibid., 289-292, 297-301.

**The**

**FARMER'S  
FRONTIER**



**THE NATIONAL SURVEY OF  
HISTORIC SITES AND BUILDINGS**



Little Sod School House. A sod house school, with outbuilding, in Grant County, Oklahoma Territory.

Courtesy, National Archives

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For the most part, works on the subject can be divided into two types: good general histories of the West, which give minor treatment to the farming story; or specialized agricultural histories which deal either with a limited geographic region, or with a single one of the many phases of the agricultural advance. Deserving of particular mention among the journals is Agricultural History, which contains many fine articles and useful bibliographies.

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A BRIEF SURVEY OF THE PRESENT CONDITION AND  
DISTRIBUTION OF FARMER'S FRONTIER SITES

The frontier of the farmer is one of the phases of Westward Expansion likely to produce relatively few outstanding sites. It is also a movement difficult to trace and to document. Pioneers reached green valleys untouched by man, farmed a year or two, were disturbed by advancing civilization, and moved on, leaving nothing of permanence behind. It is to be expected that such structures as the sod house, built by a majority of pioneer homesteaders on the Plains, did not last very long. With the exception of the first homestead established under the Homestead Act, there are few sites which clearly illustrate outstanding events of the agricultural frontier. In a sense, all pioneers were temporary, unless they were farmers; therefore farming was practiced by almost all those who followed the fur traders, the miners, and the cattlemen into the lands of the West.

Because of the nature of the land, and the tools which he had available, the frontier farmer could cultivate only on a very small scale. He built only the bare minimum, a rude shelter and barn, and when he moved on, as many did, little was left, except the land. Men like John Bidwell, one of the first Americans to travel overland into California, and who eventually had twenty sub-ranches, each devoted to a particular product, were the exception.

Increasingly, during the twentieth century, farming techniques have changed. Mechanization, great improvements in methods, fertilizers, and seeds, have combined to revolutionize farming. Throughout the entire agricultural belt it would be difficult, if not impossible, to find a

farmstead which bears any great resemblance to the farm unit in the days of the pioneer homesteader. Agriculture in the Plains is today big business.

Cultivation of the soil was the primary objective of the American pioneer, and all permanent frontiers rested on the farmer. Because of his remoteness from sources of supply, because it was an age when men had to be self-sufficient, the pioneer had to produce his own food. For this reason, the farmer's frontier extended to every section of the United States, although it is customary to think of the frontier of the farmer primarily as the region of the Great Plains, and secondarily as the fertile valleys of the Far West. Even the ships which plied the Pacific Coast in the sea otter trade were a part of the agricultural story, for it was not unusual for parties of men to be sent ashore for the purpose of raising food to combat scurvy.

In a sense, American acquisition of certain western provinces, such as Oregon and California, was only a question of time once the farmer arrived, because he had come to stay. The advance of the pioneer farmer did not constitute a wave or a clearly defined movement. Because early farming activities were so scattered, many of the sites recorded indicate pioneer efforts in widely separated regions--Pete's Kitchen in Arizona, Etienne Lucier in Oregon, Miles Goodyear in Utah, Father De Smet in Montana, Henry Dangberg in Nevada, and Edward Beale in California.

The farming frontier complements other frontiers, and sites associated with the advance of the farmer are often closely associated with other frontier activities. Missionaries, such as Marcus Whitman, achieved considerably more success in cultivating crops than converting Indians, and



Mission Dam. A stone and mortar structure built with Indian labor by the Franciscans of Mission San Diego shortly after 1800, for the purpose of storing water to irrigate mission crop lands. (For a modern version, see following photograph.)

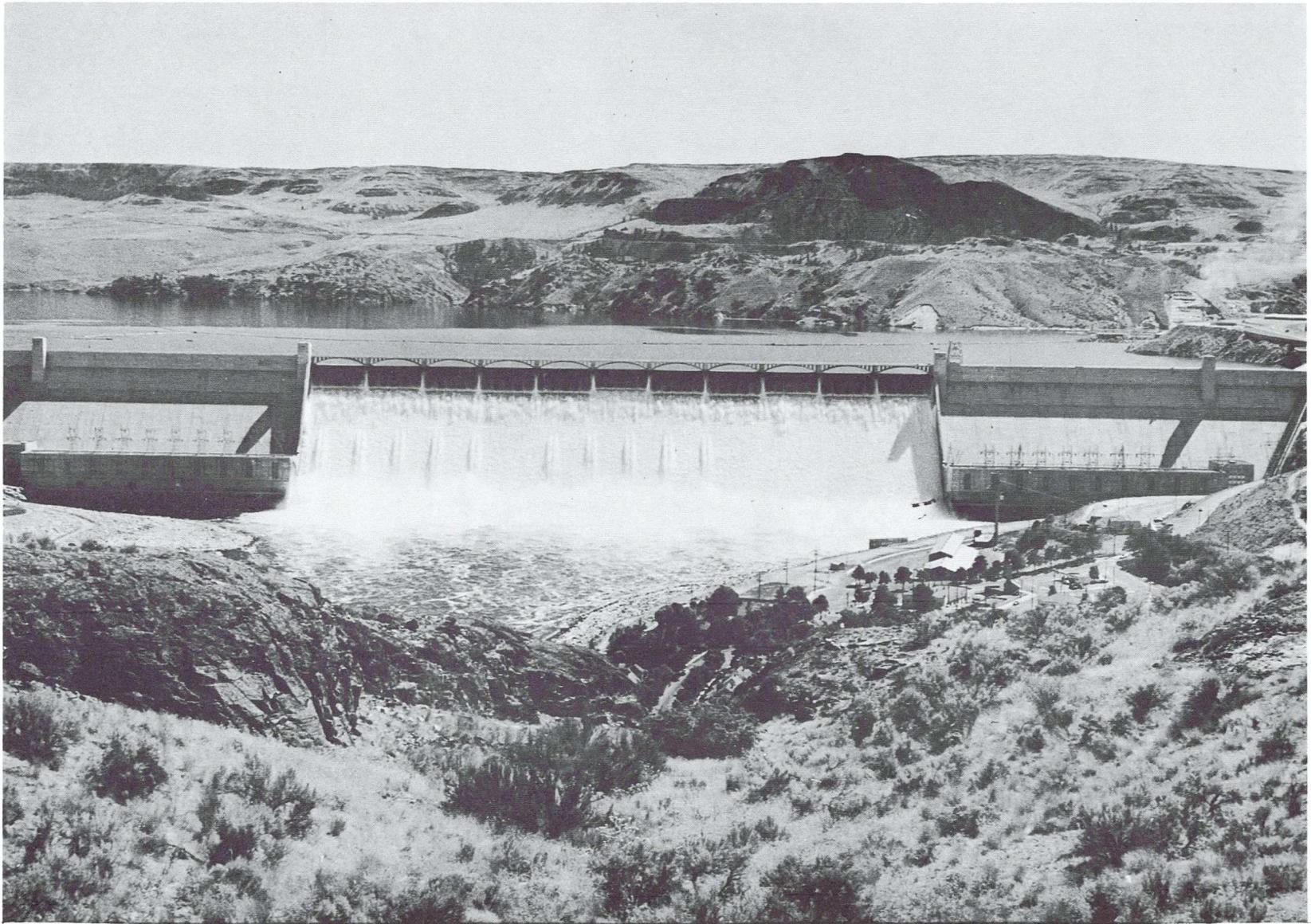
N. P. S. photograph

word of their success brought more would-be farmers across the Plains. The legendary John McLoughlin, the Hudson's Bay Company Chief Factor at Fort Vancouver, initiated a large-scale farming project in order to provision his fur trading posts in the Northwest. Brigham Young sent farming colonists out from Salt Lake in all directions to establish new settlements and expand the Mormon empire.

Aridity is almost the distinguishing feature of the West, and the necessity of irrigating much of the farmland was one of the distinguishing features of frontier farming--because of this fact, many important sites are associated with early irrigation. Irrigation required concerted action, religious groups alone possessed this needed organization--the Franciscan fathers at the California missions before 1800, the Presbyterian missionaries in the Oregon country in the 1830's, and the Mormons in Utah and Arizona in the 1840's.

Private enterprise soon was providing the farmer with water for his fields, just as the miners were supplied water from flumes built by companies who made their profits from gold indirectly. In 1831 Edward Beale constructed the first irrigation canal in the San Joaquin Valley of California, and Jack Swilling founded the Swilling Ditch Company in 1867, which helped convert the desert country of Arizona into farmland.

It is perhaps an understandable urge on the part of preservation agencies to preserve the homes of great men, rather than that of the humble, unsung farmer. In the case of the Great Plains states, little attempt has been made to preserve sites associated with the pioneer farming era. The National Grange has preserved the Minnesota home of one of its founders,



Same Principle, Only Bigger. The tiny, crude dam built by the mission fathers at San Diego 150 years before (see previous photograph) nevertheless was constructed for the same purpose as Grand Coulee—storing water for irrigating fertile but arid soil. Grand Coulee Dam furnishes water for 1,000,000 acres of farmland in eastern Washington.

N. P. S. photograph

Oliver H. Kelley; Colorado has plans for interpreting the story of Boggsville, scene of one of the earliest experiments in irrigation; and Fort Owen, close by the site of the first farming operation in Montana, is being developed as a state park.

Unfortunately, there have been few, if any, attempts to recreate the life of the pioneer farmer on a scale such as is being done at the Farm Museum in Cooperstown, New York. There has never been a surge of popular interest in the agricultural phase of Western history. The popular writer has seldom seen fit to romanticize the life of the farmer. Certainly the cowboy, the gunman, the miner and the mountain men have proved more attractive subjects both to the author and to his audience.

Included in the National Park System are several areas associated with the frontier of the farmer. Foremost is Homestead National Monument, which commemorates the first claim established under the Homestead Act of 1862. Other areas of the System, which in part illustrate the agricultural advance are: Pipe Spring National Monument, Arizona, a frontier Mormon establishment; Fort Vancouver National Monument, Washington, one of the first experiments in farming in the Northwest; Whitman National Monument, Washington, an early attempt to teach agriculture to Indians in the Oregon country; George Washington Carver National Monument, Missouri, commemorates the genius of the man who contributed much to improving agricultural methods.

Although the pioneer farmer has largely been overshadowed by the much more romantic feats of other frontiersmen, an Agricultural Hall of Fame is being built near Kansas City, Kansas, to honor the accomplishments of the farmer. An extensive museum program is planned to interpret the life of the

farmer. It is hoped the project will become in effect a world's fair of agriculture. Construction, estimated to cost \$5,000,000, was begun in September, 1959.



Site of Astoria. Crops planted by the Astorians in 1811 marked the first American farming venture in the Far West.

**SITES OF EXCEPTIONAL SIGNIFICANCE**



Homestead National Monument. A restored pioneer log cabin, typical of thousands of such homes which were built by early homesteaders on the Great Plains in the 1860's.

N. P. S. photograph

HOMESTEAD NATIONAL MONUMENT  
Nebraska

Homestead National Monument is the site of the first claim under the Homestead Act of 1862, and commemorates the free land policy which governed the settlement of the western Plains. It is also a memorial to the hardy pioneer homesteaders who endured frontier conditions in their drive to establish farm homes in the West. It would be difficult to overstate the importance of the Homestead Act or overemphasize its effect upon Westward Expansion.

By the terms of the Act, every citizen or person declaring his intention to become a citizen could file claim to a quarter section-- 160 acres--of unappropriated public domain. After working his claim for five years, the homesteader received title to the property. More than a million families received free homesteads as a reward for converting undeveloped lands into farms. The Homestead Act drew people in great numbers from eastern and mid-Western United States and from Europe into the Great Plains.

To establish Homestead National Monument, the homestead of Daniel Freeman was acquired by the National Park Service. Freeman was the first man to acquire land under the Act and he received Homestead Entry No. 1. The principal historic feature of the monument is an original log cabin, erected in 1867 in a neighboring township, and since moved to the monument site. It is supplied with furnishings and tools used by pioneer farmers of the region. Homestead National Monument is located about 40 miles southwest of Lincoln.



George Washington Carver National Monument. Entrance way to the site of Carver's birthplace. The great Negro scientist was born of slave parents on this plantation in 1860.

N. P. S. photograph

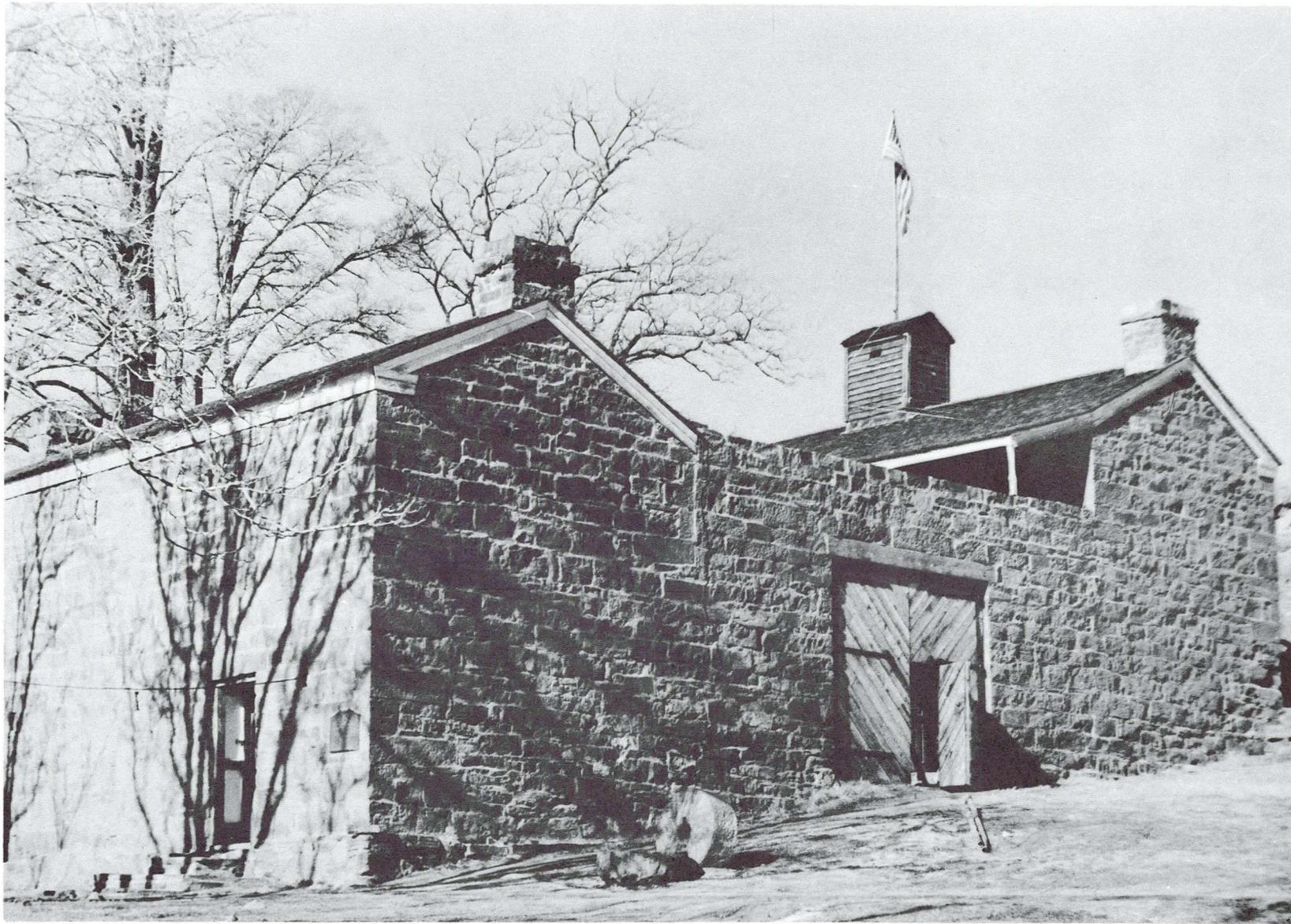
GEORGE WASHINGTON CARVER NATIONAL MONUMENT  
Missouri

This monument was established as a memorial to a man whose practical and consequential achievements in the field of scientific agriculture and chemistry changed the life of the American farmer. Carver, an orphaned slave, rose from the humblest of backgrounds. His unflagging determination to achieve an education which would enable him to experiment with agricultural products enabled him to overcome obstacles most men would have found insurmountable. Although a member of the faculty of Tuskegee Normal and Industrial Institutes for Negroes for 47 years, Carver was basically a scientist who spent a lifetime in the laboratory devoting his energies to endless experiments for the utilization of farm products. His achievements were honored by men in all countries, but he was particularly successful in achieving remarkable advances for farmers in the field of scientific agriculture.

The monument, established in 1951, includes a large portion of the Diamond Grove Plantation, near Diamond Grove, Missouri, where Carver was born in 1860. Except for the graveyard, there are no remains of the period when Carver, as a slave boy, lived on the plantation.

PIPE SPRING NATIONAL MONUMENT  
Arizona

Although the principal economic activity of the region was cattle ranching, this site exemplifies the extension southward from Salt Lake of the Mormon agricultural frontier. The expansion of Mormon farm settlements began in the 1850's, soon after the founding of the colony in the valley of the Great Salt Lake, and continued until after the close of the nineteenth century.



Pipe Spring National Monument. Strategically located frontier forts such as Pipe Spring exemplified the extension of the Mormon colony southward from Great Salt Lake.

N. P. S. photograph

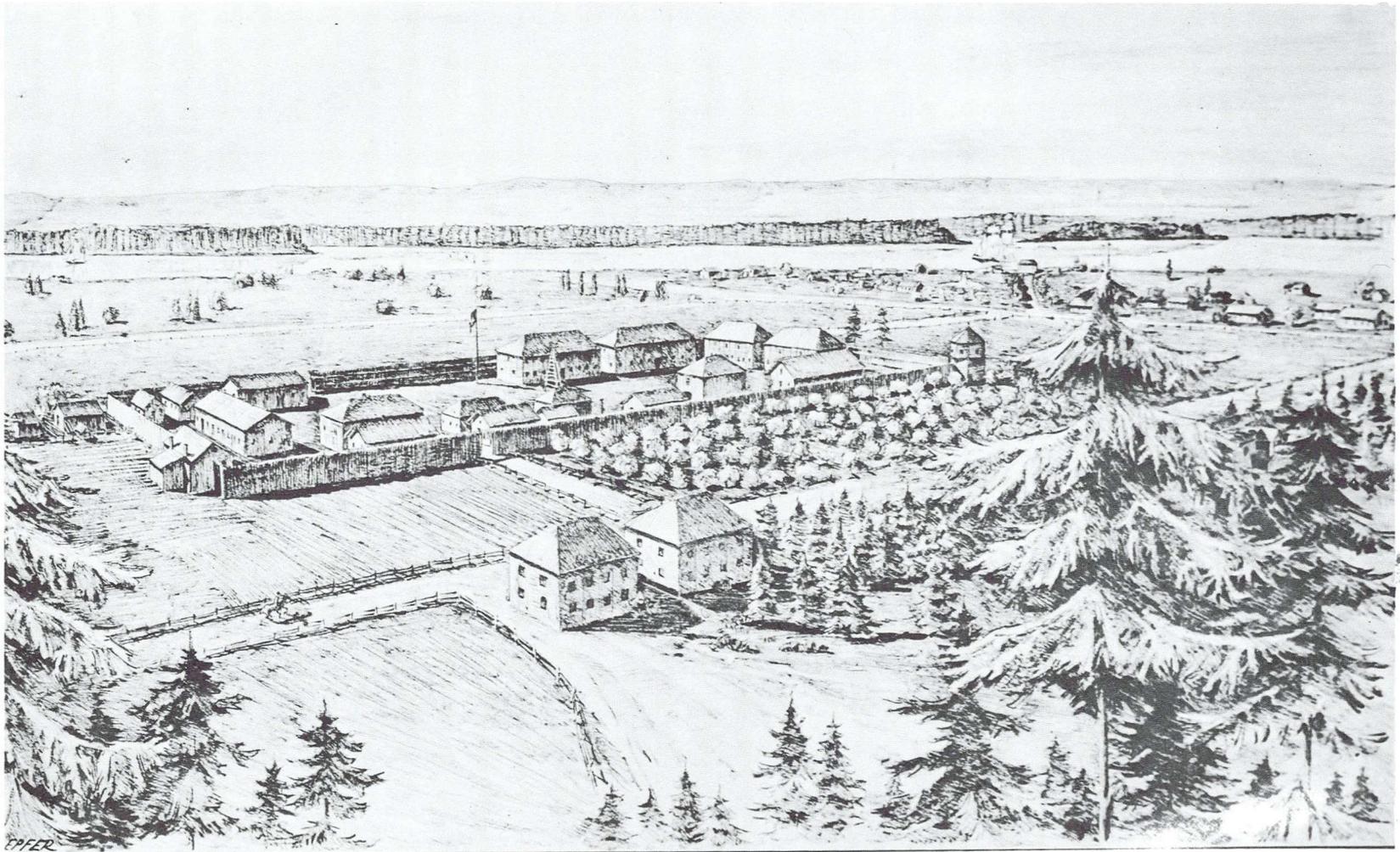
Wherever water was to be found, in southern Utah and northern Arizona, Mormon farming centers sprang up. To provide centers of defense against Indian attacks and to establish way-stations which provided shelter for travelers, Brigham Young had forts built at strategic locations. Pipe Spring is probably the best remaining example of such a fort, although Cove Fort and Fort Deseret, both in Utah, are interesting specimens.

Pipe Spring was headquarters of a cattle ranch from 1863 to 1865, when the owners were murdered by Indians. In 1869 the Mormon Church acquired the property and Bishop Anson P. Winsor built the fort that became known as "Winsor Castle"--two stone buildings, two stories high, facing each other across a courtyard. Sandstone walls and heavy gates closed the courtyard on either end of the buildings. Firing platforms and loopholes testified to the primary purpose of the fort. Continuous flow of water was insured as one of the buildings stood directly over a spring. In 1875 the church sold Pipe Spring and its improvements to private interests for a cattle ranch.

The monument, located 15 miles from Fredonia, was established in 1923 to commemorate the achievements of the American pioneer generally and the Mormons in particular. In addition to the fort and outbuildings, many original tools and furnishings used by the pioneers have been preserved.

FORT VANCOUVER NATIONAL MONUMENT  
Washington

Under skilled Scottish gardeners, the extensive planting in 1825 at this historic center of Hudson's Bay Company activities in the Oregon country soon produced abundant stores of grains, vegetables and fruits.



## FORT VANCOUVER NATIONAL MONUMENT

Fort Vancouver. Tilled fields and orchards, needed to supply the fur trading post, are shown in this sketch of Fort Vancouver.

Eventually several thousand acres were cultivated, and enough flour was milled to supply the company's needs in the Northwest. McLoughlin wrote in 1826 that "wheat, Oats and Barley which Grew are the finest I ever saw in any Country." Fort Vancouver served as a testing ground for agriculture, and branch farms were established at widely scattered subsidiary posts.

The monument was established to commemorate the enormous influence of Fort Vancouver upon the history of the Northwest. The agricultural phase of the fort story is a lesser but important part of the story. A considerable number of artifacts, as well as remains of stockade and building foundations, have been uncovered by archeologists.

#### WHITMAN NATIONAL MONUMENT Washington

Missionaries to the Indians faced the problem of ministering both to the spiritual and physical needs of their charges. Dr. Marcus Whitman and his wife Narcissa, who founded the Whitman mission in 1836, at Waillatpu, "the place of the rye grass" (near Walla Walla), knew they could not fulfill their purpose if the Indians retained nomadic ways, in pursuit of the buffalo and the salmon. Until his charges murdered him in 1847, Whitman taught them agricultural pursuits, including the irrigation of crops and the planting of orchards. The mission was located on the Oregon Trail, and Whitman was frequently called upon to supply overland immigrants en route to Oregon. The massacre of the Whitmans ended protestant missionary work among the Oregon Indians.

The monument illustrates the importance of agriculture to all phases of Westward Expansion. Without agriculture, the mission could not have existed. Archeological investigations have uncovered foundation remains of the mission structures.

## OTHER SITES CONSIDERED IN THE SURVEY

(The list which follows includes sites which are of considerable interest but which do not meet the criteria for national significance.)

### ARIZONA

Swilling Canal: The vision of an ex-confederate, Captain Jack Swilling, was responsible for converting the Salt River Valley deserts of central Arizona into a prosperous agricultural economy. Perceiving that prehistoric man had found a method of utilizing the waters of the Salt and Gila Rivers, Swilling in 1867 organized the Swilling Ditch Company at the mining town of Wickenburg. In subsequent years a network of canals dug by several companies brought hundreds of thousands of acres under cultivation, and laid the foundation for the economy of Phoenix. Although no longer in use, the Swilling Canal may still be traced in places. It leaves the Salt River about one-half mile east of Joint Head Dam, near Pueblo Grande, and swings through Phoenix. The adobe building in Wickenburg where Swilling organized the ditch company in 1867 is still standing in Wickenburg.

Pete Kitchen Ranch: In the 1850's and 1860's, Kitchen Ranch, known as El Potrero, was one of the best-known places in southern Arizona, excepting only Tucson and Tubec. Kitchen had come to Arizona in 1854 and settled on the Santa Cruz River just north of the Mexican border. During the years of the Apache wars he was virtually the only settler whom the Indians failed to drive into the settlements. Strongly built, as much a fort as a ranch, Kitchen's ranch became a rallying point and refuge for travelers. It also resembled a feudal estate, on which Kitchen employed large numbers of Mexican workmen and Opata Indians. Truck gardening and stock raising provided food for ranchers and the settlements in southern Arizona.

The original adobe structure in which Kitchen lived is intact, although the present owner has stabilized the walls and added a new roof. A more pretentious adobe ranchhouse built later by Kitchen is also standing, almost in its original condition. It is used as a residence and a museum in which are displayed pioneer relics of southern Arizona and an outstanding collection of artifacts relating to the Spanish period.

### CALIFORNIA

Burbank Experimental Farm: Burbank began his work in Santa Rosa in 1878; needing more land he moved to Sebastopol in 1885 where he established the Burbank Experimental Farm. For nearly half a century the "plant wizard" experimented in the development of improved strains in a great number of vegetables, fruits and flowers. Through hybridization he achieved remarkable changes in size, form and color. The Burbank House and Gardens, in Santa Rosa, were donated to Santa Rosa Junior College.



El Potrero. In the 1850's and 1860's, this ranch home of Pete Kitchen in Arizona Territory was both fort and house. It is now maintained as a private residence and museum.

N. P. S. photograph

Mission Dam: The first irrigation projects in California were the work of Franciscans, who irrigated farmlands at the Missions. In Mission Gorge, near Mission San Diego, is the remains of a dam built of native rock shortly after 1800, for the purpose of controlling water storage in the San Diego River.

New Helvetia: John Sutter is famous for many endeavors, including the unexpected results of his decision to build a sawmill on the American River. He is sometimes known as the "founder of American agriculture in California," and his was the first white settlement in the great central valley of California. His farming operations were extensive, he planted large areas in wheat, built a flour mill and diverted water from the American River for agricultural purposes. A part of his original fort, in the City of Sacramento, is preserved as a State Historical Monument.

Rancho Chico: John Bidwell was a noted California pioneer, arriving in 1841, who mined at Bidwell's Bar in 1849 before purchasing Rancho Chico. He became one of the foremost men of the state, and was also a pioneer agriculturist and horticulturist. Rancho Chico became an outstanding agricultural establishment, producing more than 5,000,000 pounds of wheat in a year, with 20 sub-ranches, each devoted to a particular product. Parts of the original tract have been donated to the City of Chico for park purposes, and the Bidwell Mansion is preserved in Chico on the campus of Chico State College.

Rancho El Tejon: The San Joaquin Valley is one of the greatest centers of irrigated agriculture in the world; the first extensive irrigation in this area was undertaken by Edward Fitzgerald Beale at El Tejon, who constructed the first irrigation canal in the valley in 1851. Within two years water rights to large irrigation canals were being sold to settlers in the central valley of California. The ranch is now a part of a vast combine, known as El Tejon Ranchos. Nearby is Fort Tejon State Historical Monument.

## COLORADO

Boggsville: This site near Las Animas witnessed the first successful irrigation experiment in Colorado. A group of men, including Thomas O. Boggs, in 1867 constructed a seven-mile canal, the Tarbox Ditch, on the Purgatoire, a branch of the Arkansas River, and successfully irrigated some 1,000 acres of farmland. The crops were sold to nearby Fort Lyon, established in 1867. Only two significant structures remain in Boggsville. One is the original adobe home of Thomas Boggs, built in 1866, the other is a section of a two-story house of twenty-four rooms which belonged to John W. Powers, a partner in the irrigation enterprise and a prominent cattleman, businessman, and politician in eastern Colorado. It is understood the State Historical Society of Colorado plans to acquire the site.

## IDAHO

Fort Limhi: After successfully founding his colony in the Great Salt Valley, Brigham Young began the planned expansion of the Mormon empire, southward to San Bernardino, California, and northward into Idaho. Fort Limhi, near Salmon, was established in 1855, lands were irrigated and the colony prospered. Three years later the colonists were driven out by hostile Indians. There are no remains, except for traces of the irrigation ditches.

Spalding Mission: In 1835 the Reverend Henry Spalding established a protestant mission to the Nez Perces on the Clearwater River. At this first settlement in Idaho, the first crops were planted and the first gristmill was operated. There are no surviving buildings, but remains of the gristmill and sawmill can be seen on the site, in Spalding State Park, near Lewiston.

## MINNESOTA

Gibbs House: This farmhouse, typical of Midwest structures of the period, was built by an early settler in St. Paul in 1854, with the wing added in 1857. The building, a solidly built clapboard structure, has been restored and furnished as a museum by the Ramsey County Historical Society.

Kelley Home: One of the shrines of organized agriculture in the United States, this structure was the thome of Oliver Hudson Kelley. Kelley was the founder of the National Grange movement in 1867, the first large-scale farm cooperative movement in the United States. The Grange is an organization which has played an important role in American agriculture life for almost a century. The Kelley home, an eleven-room building constructed in 1894, has served as National Headquarters of the Grange, and is now furnished as a Grange museum with period materials as well as Grange memorabilia.

## MONTANA

Fort Owen: Father Pierre De Smet, with six companions, established St. Mary's Mission at this site in 1841, and within a few years the Mission Farm was producing 7,000 bushels of wheat each year. This was the first farming operation in Montana. In 1850 Major John Owen leased the mission property and established Fort Owen. For a decade his fort was the center of farming operations and trade for the region. One fort building remains at the site, not far from Missoula, and is being restored as a State Park.



Gibbs House. A typical Midwestern farmhouse, built in 1854 by an early St. Paul settler.

N. P. S. photograph

## NEVADA

Dangberg Ranch: A German immigrant, Henry Fred Dangberg, about 1853 settled in Carson Valley, ignoring the mining craze in California. Knowing something of the Mormon irrigation project in Utah, he ditched his fields and grew hay which was sold profitably to the miners. His was primarily a ranching operation, but with a supply of seeds obtained from a ship captain in 1864 he began to successfully raise crops, probably the first such operation in Nevada. Today the ranch near Carson City is operated by his heirs and is one of the best examples of diversified agriculture in the state.

## OREGON

Astoria: The supply ship, the "Tonkin," sent by Astor to help establish his fur trading post at the mouth of the Columbia River, carried garden seeds as a part of its cargo. The crops were planted in May, 1811, two months after the ship's arrival, and the garden was maintained during the life of the post. It represented one of the first attempts by Americans at agriculture on the Pacific Coast. A part of the fort site has been preserved by the town of Astoria.

French Prairie: The occupation of French Prairie, along the Willamette River, marked the beginning of settlement of the rich Willamette Valley of Oregon. Etienne Lucier, who arrived in 1829, was the first of a group of Hudson's Bay trappers, mostly French Canadians, who left the company and turned to farming. They were soon joined by missionaries, mountain men, and pioneer farmers, who developed the agricultural resources of the Willamette.

The farm settlement at French Prairie marked a significant change in the history of the Northwest. Although farming had been practiced at Astoria and Fort Vancouver, as a phase of the fur trade, this was the first agricultural center, whose success stimulated interest in the agricultural possibilities of the Oregon country.

## UTAH

Cove Fort: A fort, similar to Pipe Spring, established in 1867 by Brigham Young as a way station for travelers on the much traveled road linking Salt Lake City with the Mormon agricultural colonies in northern Arizona. Nearby Cove Creek supplied water for irrigating truck gardens. The fort structure, made of basalt blocks, consists of a row of rooms on each side of the courtyard facing each other. It is planned to develop the site, located south of Fillmore, as a Utah State Park.



Kelley Homestead. Home of Oliver Hudson Kelley, founder of the National Grange, this Minnesota farmhouse has served as national headquarters of the organization and is now a museum.

N. P. S. photograph

Fort Deseret: This fort, like Pipe Spring and Cove Fort, was built as a frontier fortification against marauding Indians. It was established in 1865 by early residents of Millard County, and was put to good use against hostiles during the Ute Black Hawk War. Constructed of mud and straw, it was about 550 feet square. Some two-thirds of these walls, in ruins, are standing at the town of Deseret. A State Park is planned for the site.

Goodyear Cabin: Miles Goodyear established a trading post called Fort Buenaventura on the Weber River in 1845, which was probably the first farming operation by whites in Utah. When the Mormons first arrived in 1847, they persuaded Goodyear to sell out. The site was later occupied by Captain James Brown, of the Mormon Battalion, and his family, who expanded the acreage which Goodyear cultivated and laid the foundation for one of the first Mormon agricultural ventures. From this nucleus grew the modern city of Ogden. The cottonwood cabin, a part of the original Fort Buenaventura, has been moved from its original location to Tabernacle Park, in Ogden.

Seagull Monument: In the Great Salt Lake basin, scene of the dramatic victory of a pioneer religious and agricultural organization, illustrative historic sites have largely given way to urban and industrial development or to modern farms. In the heart of Salt Lake City, in Temple Square, stands a monument which commemorates one of the most famous incidents in Mormon annals. In 1848, the first full crop planted by the Mormons seemed certain to be destroyed by an infestation of crickets, when sea gulls from islands in the Great Salt Lake arrived, ate the crickets and saved the crops. Utah sculptor Mahroni Young designed the monument, a 16-foot column topped by gilded sea gulls.

#### WASHINGTON

Cowlitz Farm: The Hudson's Bay Company contributed immeasurably to the future development of farming in the Northwest through the establishment in 1839 of a separate concern devoted exclusively to agriculture--the Puget's Sound Agricultural Company. Two farms were established--Cowlitz and Fort Nisqually--and both were highly successful. By 1841 Cowlitz Farm had nearly 1,000 acres enclosed under cultivation along the Cowlitz River, and 15,000 bushels of grain were being supplied yearly for trade purposes.



French Prairie. Retired trappers of the Hudson's Bay Company, mostly French Canadians, began to arrive at French Prairie in 1829, the first pioneer farmers in the rich Willamette Valley.

CRITERIA FOR SELECTION OF SITES

The National Park Service has adopted the following criteria for selection of sites of exceptional value:

1. Structures or sites in which the broad cultural, political, economic, military, or social history of the Nation is best exemplified, and from which the visitor may grasp the larger patterns of our American heritage. Such sites are naturally the points or bases from which the broad aspects of prehistoric and historic American life can best be presented.
2. Structures or sites associated importantly with the lives of outstanding historic personages.
3. Structures or sites associated with important events which are symbolic of some great idea or ideal of the American people.
4. Structures which embody the distinguishing characteristics of an architectural type-specimen, exceptionally valuable for a study of a period style or method of construction; or a notable work of a master builder, designer, or architect whose individual genius reflected his age.
5. Archeological sites which have produced information of major scientific importance by revealing new cultures or by shedding light upon periods of occupation over large areas of the United States. Such sites are those which have produced or which may reasonably be expected to produce data which have affected theories, concepts, and ideas to a major degree.
6. All historical and archeological sites and structures in order to meet the standards of exceptional importance should have integrity, that is, there should not be doubts as to whether it is the original site or building, original material, or workmanship, and original location. Intangible elements of feeling and association, although difficult to describe, may also be factors in weighing the integrity of a site or structure.
7. Structures or sites of recent historical importance relating to events or persons within 50 years, will not, as a rule, be eligible for consideration.

